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In This Issue—

- The Professional Curriculum of Teachers
- Who Shall Control the Content?
- Group Methods in College Teaching
- Student Teachers Talk Back!

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Editorial Comments

Premature Shooting

HOLD your fire, gentlemen!

The release of the Preliminary Report of the "New Horizons in Teacher Education and Professional Standards" task force has triggered some hot rebuttals. Especially has the recommendation that college teachers and those in non-public elementary and secondary schools be licensed caused some fancy galloping to the rescue. If the galloping warriors will put down their shooting irons for a moment, maybe the ammunition can be saved for another target. And as the bead is reluctantly lowered, let's give attention to the following:

1. This recommendation was included among many recommendations in a brochure of the task force to the National Commission on Teacher Education and Professional Standards, clearly labeled as a *preliminary report*. The task force was an autonomous body charged by the Commission to study the five areas of responsibility of NCTEPS and to propose new goals adapted to new conditions. At no time during its deliberations and the development of its preliminary report did the Commission undertake to dictate the nature of its deliberations or its conclusions. These recommendations do not, therefore, at the moment, necessarily reflect policies of the Commission. The task force's final report, in book form, will not be available until sometime (early, we hope) in 1961. And this final report will still represent the views and recommendations of the task force, not necessarily those of NCTEPS. NCTEPS will not attempt to develop from this report its final judgment on policy and action until the Preliminary Report has been subjected to the critical scrutiny of participants in conferences of state TEPS commissions and that of other groups who desire to react to it. Moreover, the full-length report of the task force will become the working papers for the 1961 National TEPS Conference (the Pennsylvania Conference, to be held on the campus of Pennsylvania State University, June 20-24, 1961). Only then will NCTEPS develop from the study its policy statements and an action program to achieve the new goals.

2. The Committee on Certification (one of five constituting the task force), which developed the tentative licensure proposal, modified its own recommendation at the final meeting of the entire task force in Chicago, August 15-17. This final meeting was held to refine the many proposals and to give instructions to the writing team preparing the final report.

The modification of this particular recommendation of the Preliminary Report was only one among several. Some recommendations were deleted, some restated, and some modified in their meaning. These changes resulted from further deliberation and study of the preliminary proposals, admittedly developed under extreme time pressures.

The Certification Committee, as we understood its discussion at Chicago, will not modify its enunciation of the basic principle that there ought to be, as there is for every other profession, some means of identifying applicants for admission to the profession of teaching, and that this identification should apply, in the public interest, to all those who profess teaching. The Committee will point out that legal licensure is only one means of doing this (although it is used for virtually all other professions). It will not recommend the legal route as the *only* means, but it will recomemnd that *some* means be found.

The crucial point here, it seems to us, rests with the graduate schools and the kind of programs they provide for those who aspire to be college teachers. Obviously, we are arguing for such programs to have some orientation to teaching as contrasted to programs for those who want to be industrial researchers, for example. And perhaps the graduate schools themselves will issue the certificate for teaching, as was once the case with public teachers colleges and universities regarding the licensure of elementary- and secondary-school teachers. Or maybe the learned societies will want to undertake this chore, as part of their membership requirements.

Of course, these proposals, too, can be used to kick up a storm, and probably will be. But all one has to do to discern that this problem is of great concern is to read the thoughtful deliberations of college groups themselves on the subject.

To those who like to think that this is the best of all possible worlds for the preparation of college teachers, we recommend the reading of Jacques Barzun's "The Cults of Research and Creativity," in the October 1960 issue of *Harper's*. Barzun speaks of the corruption of college teaching by the magic appeals of research and writing. Unless the graduate schools move to correct this situation, move to admit there is such a thing as preparation for teaching, eventually the explosion from the public, with mounting costs of higher education, will make the recent blasts at the public schools tame by comparison. Maybe, as some have charged in connection with concepts about the preparation of elementary- and secondary-school teachers, there is an "Old Guard" here, too. If so, we hope they will bestir themselves rather than resort to the defensive posture they so often and so vigorously attribute to the "educationists," because this is another crucial problem in education that won't "down." (See the guest editorial below and the review entitled "College Teaching," on pages 565-66.)

And that devoted spokesman for the man-on-the-horse idea in teaching—*Time* magazine—as an example of flagrant contempt for teaching, commented in its recent story on the University of California:

> . . . The schooling on Cal campuses is on a take-it-or-leave-it basis. Berkeley's brightest faculty lights have long been more interested in their own research than in undergraduates. Still, there is a saying around Berkeley that it is better to be 50 feet from a great man than five feet from an ordinary one.[1]

There, gentlemen, is your target. Fire, if you must!—*T. M. S.*

[1] "Master Planner," *Time* 76: 69; October 17, 1960.

EDITOR'S NOTE: *To embellish the closing note of the above editorial, we print the following comments by Joseph Seidlin, dean of the Graduate School, Alfred University, Alfred, New York. We print them without comment, other than to indicate that the conference and resolution referred to have no reference to the "New Horizons in Teacher Education and Professional Standards" Report.*

"Incredible"

A MORE descriptive title might be "The Divine Right of Kings" or "The Sanctity of the Ph.D."

At the Fifteenth National Conference on Higher Education, a resolution, reproduced below, was tabled "because of its controversial nature." It is unbelievable that in March 1960 educators, whose chief concern is higher education, would consider the following resolution

controversial:

We urge the leadership of institutions of higher learning to devise curricula and experiences relevant to the preparation of college teachers. There are not enough "born" teachers to meet the rapidly accelerating need for college teachers. The kind of graduate degree to be conferred on prospective college teachers after two or more years of postgraduate work is relatively of minor importance. Since the preparation of a college teacher of, say, chemistry may differ in some aspects from the preparation of a research chemist, the Ph.D. may continue to be a "research degree." Some other degree —a professional degree analagous to the M.D. in medicine—no less demanding or exacting than the Ph.D.—may be the degree of the college teacher. Employment and promotion of college teachers should depend on competency and not on degrees held. We may thus lessen or eliminate industry's competition for manpower that is presently decimating the already thin ranks of available college teaching personnel. Those who actually prepare for college teaching are more likely to remain in college teaching. By the same token, those who prepare to be chemists, physicists, mathematicians, etc., may join the research departments of either universities or industry. The shortage of qualified teachers—scholars in their respective fields, dedicated to their dominant responsibility, that of teaching—is crucial. But even to meet an emergency does not, in our opinion, justify manning our classrooms with incompetent or poorly prepared teachers.

It must be admitted that we are not now making anything approaching maximum utilization of available and potential college teaching talent. Women do not have an equal chance with men for employment and promotion in college teaching. Discrimination on religious grounds still is practiced in many colleges. There are many non-segregated colleges that have yet to employ a Negro faculty member. Once we make it clear to representatives of those groups against whom discrimination has been practiced that we no longer do discriminate, the supply of qualified college teachers from these sources will increase.

Let us analyze the resolution, sentence by sentence, and discover, or guess at, the possible objections and uncover the still prevalent prejudices that, unlike old soldiers, neither die nor wither away:

We urge the leadership of institutions of higher learning to devise curricula and experiences relevant to the preparation of college teaching.

What real objection can be raised to this? Either that it is impertinent even to suggest that our current Ph.D. programs are inadequate as preparation for college teaching; or that the very phrase "preparation for" demands the stature of the Ph.D., who learns to teach—if at all—by trial and error.

. . . There are not enough "born" teachers to meet the rapidly accelerating need for college teachers.

No attempt is made to affirm or deny the oft-repeated lemma that "teachers are born." In passing, it might be said that to some the myth that "teachers are born" serves no purpose other than to frighten storks. Be that as it may, no debate is raised by this sentence in the resolution.

. . . The kind of graduate degree to be conferred on prospective college teachers after two or more years of postgraduate work is relatively of minor importance.

Some objection might be raised to the minimum of "two years." That is purely academic, since the kind of curricula which is devised may require more than two years.

. . . Since the preparation of a college teacher of, say, chemistry may differ in some aspects from the preparation of a research chemist, the Ph.D. degree may continue to be a "research" degree.

Perhaps this is it. How dare anyone suggest that a research chemist is not *ipso facto* a teacher of chemistry? It would seem that Ph.D.'s in any field should at least have learned the fallacy of reasoning by converses. Even if it were universally admitted that all the

superior teachers of chemistry are research chemists, it still does not follow that a research chemist is by virtue of being a research chemist a superior or an effective teacher.

. . . Some other degree—a professional degree analagous to the M.D. in medicine—no less demanding or exacting than the Ph.D. —may be the degree of the college teacher.

Here the controversial element may not be the sanctity of the Ph.D. but a prejudice, unbecoming to Ph.D.'s, that, though not actually mentioned, "the other degree" might turn out to be the Ed.D. and "that low we ain't sunk yet." Actually the Ed.D. degree was not even considered by the resolutions committee. In fact, the Ed.D. degree is rarely mentioned even by Ed.D.'s as an appropriate general degree for the college teacher. When, among educators, reason conquers prejudice—and the time is not far off—the Ph.D. degree may turn out to be the most appropriate doctorate for a college teacher. The research chemist doctorate might well be "Doctor of Chemistry."

. . . Employment and promotion of college teachers should depend on competency and not on degrees held.

The controversial element here is that while competency in teaching is difficult to evaluate, degrees are patent. No comment.

. . . We may thus lessen or eliminate industry's competition for manpower that is presently decimating the already thin ranks of available college teaching personnel. Those who actually prepare for college teaching are more likely to remain in college teaching. By the same token, those who prepare to be chemists, physicists, mathematicians, etc. may join the research departments of either universities or industry.

The demurrers here were chiefly to devaluating teachers so that industry will not want to compete for them and apparently limiting researchers to research. Positively or negatively, the implications in the resolution are, at most, reasonable guesses. That industry competes for researchers is no conjecture. We know that researchers who prefer teaching are not lured by the siren wooing (money) of industry. The rest may or may not follow. But it is not controversial.

The remaining part of the first paragraph of the resolution and all of the second paragraph seemed not to be controversial. Apparently, there were no Schopenhauers or John Kaspars in the audience.

Clearly, it is difficult, well-nigh impossible, to account for the rejection of a resolution that attempted to deal constructively with a problem that might yet prove to be pivotal in the course of higher education. Facilities, scholarships, and Federal aid may all be of relatively little value in the future development of higher education if our classrooms are to be manned by incompetent or poorly prepared teachers. To have tabled the resolution was an act of disservice to the cause of higher education.

Then, again, and this is a happy thought, since the more thoughtful deans and faculties of graduate schools are already engaged in planning curricula and experiences designed more specifically for the preparation of college teachers, a resolution, passed or tabled, is of relatively minor significance. But why, oh why, do prejudices control the minds of such well-schooled people? Or is a Ph.D. not synonymous with "well-schooled"? And is that why the thoughtful deans, referred to above, are engaged also in overhauling the Ph.D. program, regardless of its applicability to college teaching? Ending on a sad note, perhaps no amount of schooling, even at its best, can eliminate prejudices and vested interests. Be that as it may, I am not returning my Ph.D. to Columbia.—*J. S.*

John I. Goodlad

The Professional Curriculum of Teachers

PROFESSIONAL performance rests on ideas, on insight and understanding. The surgeon, for example, must know not only how to cut but also whether to cut and, if so, when and where. The final performance is a synthesis of many pertinent understandings acquired through long preparation, much of it rigorously prescribed.[1] The "practice" part of the surgeon's preparation is that part where understandings are applied and where techniques are refined. Practice may motivate study, but it is through the study that understandings are, for the most part, acquired and deepened. If practice alone were all the surgeon needed, surgery would not be a profession. If practice alone were all the teacher needed, teaching likewise would not be a profession.

To find out what education a teacher requires over and above whatever he should have as a generally educated person, it is necessary to analyze teaching. It is necessary, also, to assume some desirable level of performance in the same way that we assume surgery to be something other than butchery. Teaching demands that the teacher make value judgments of many kinds that lead to employing the most promising techniques for stimulating and guiding learning.

[1] The term "synthesis" is used throughout this paper in referring to the highly personal relating of ideas to action that occurs in teaching. The teacher education curriculum cannot effect the synthesis, but it can at least encourage the process by deliberately accounting for the elements thought to comprise the teaching act.

Teaching: A Synthesis

The identification, description, and classification of knowledge pertinent to teaching provide a science of teaching. Bringing this knowledge effectively to bear in teaching is a technology—the technology of teaching. At times, the synthesis of knowledge is effected with such sensitive understanding of the scientific components that it is akin to art—the art of teaching. Teaching, then—a professional behavior—involves science, technology, and, at times, art. Teacher education, in turn, involves preparation for all of these.

Teacher education curricula as usually constituted have three divisions: studies in one or more organized teaching fields, studies in the field of education, and practice. The first of these divisions commonly is referred to as "specialized subject matter"; the second and third are lumped together as "professional education."

The several errors involved in viewing professional education in this way are of such magnitude that the following lamentable circumstances can be largely attributed to them:

1. Education as a field of study and professional education usually are conceived to be one and the same.

2. The various teaching fields, labeled "special," not "professional," slip out of the realm of professional education.

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Thus, the subject-field of the high-school teacher, for example, is not scrutinized to determine what is relevant for the professional curriculum.

3. Instruction in the various "special fields" studied by teachers proceeds largely without reference to the uses to be made of these fields by the future teacher.

4. The various divisions of the future teacher's curriculum are so segmented and walled off from one another within the structure of institutions of higher learning that the possibility—indeed, even the idea—of the needed synthesis taking place within the teacher is effectively denied.

5. All too commonly, curriculum development in teacher education is a haphazard process, guided largely through debate, in which arbitrarily selected pieces of undertermined value are shuffled into kaleidoscopic patterns. The personal synthesis desired in professional behavior occurs by chance, if at all, simply because not all of the components essential to this synthesis are first brought into the curriculum design.

Education as a Field of Study

Education is a field of study. As such, it is not synonymous with professional education. There is considerable inconsequential debate over whether education is a field of study in its own right or merely a composite of several fields. Certainly, education draws from economics, political science, sociology, and other fields of knowledge, but so do these fields draw from and overlap one another. The geographer never quite knows whether he is a physical or social scientist; usually he is something of both. The fields of study are man-made, after all, and as such have untidy edges.

Education as a field has a definable body of subject-matter in that education has long been a phenomenon conducted and examined by human beings and affecting them. It now has a considerable body of lore. Because of the nature of its lore and of its methods, education is classified as a social science in the structure of human knowledge and, usually, of higher education. The field has a certain kinship to other divisions of study, however, certainly to the humanities and the biological sciences.

Education as a field of knowledge seeks to describe a realm of human thought and experience. Its findings and conclusions are available to all who would use them. These findings and conclusions are available to guide professional behavior such as teaching. But these findings have relevance in and of themselves, whether or not there are teachers and whether or not teachers use them. If there were no teachers in the conventional sense but there were, nonetheless, human processes of education, the field of education would still have legitimate and identifiable subject matter.

To repeat, education is a field of study. As such, it is not identical with teaching, but some of its subject matter is pertinent to teaching. Content from the field of education is combined with content from other fields in the act of teaching. All content drawn upon in the act of teaching must be considered "professional" content, regardless of its category among the classifications of human knowledge.

The Teaching Field

The high-school teacher of, for example, mathematics, employs subject matter from this field in the teaching act. He may gain insights about the nature of the teaching act from many fields, but there is no escaping certain demands which the discipline of mathematics places upon teaching—even if the teacher is not fully conscious of these demands or cognizant of their nature. To understand the nature of these demands is to be more knowledgeable about the science

of teaching and is to increase the possibility of being more rational about the practical decisions that make up the technology of teaching. These two conditions in turn tend to free the teacher to be more creative, more artistic, in teaching. The assumption here is that, as humans become better educated, their behavior becomes less primitive in those areas to which their education is transferable and is transferred.

The example of a high-school teacher of a given field is used here simply because it lends greater simplicity to this discussion of professional education for teachers. Were the various theses being developed to be applied to the preparation programs of elementary-school teachers, curricula considerably different from those commonly planned would result.

Returning to the example of mathematics teaching, it is apparent that this field—like other teaching fields—must be rigorously examined in order to determine its contribution to and demands upon teaching. What are its methods, its basic assumptions about truth and knowledge? What elements constitute its character and hold it together as a field of human inquiry? In what way do these elements—concepts of time, number, quantity, and space, for example—discipline and limit the kinds and order of learning opportunities to be provided? How does the very nature of the field give direction to practical classroom operations, such as grouping pupils for most effective instruction, using films and tape recorders, employing teaching machines appropriately, and so on?

These are questions not usually raised in the mathematics curriculum of higher education. But such questions must be raised in the professional curriculum of teachers. Solutions to them demand a knowledge of mathematics as well as of learners and learning. The nature of learners and of learning constitutes part of the subject matter of fields other than mathematics.

It becomes apparent that questions revealed through analysis of teaching demand for their solution knowledge drawn from many fields. It follows that the teaching act demands the synthesis of knowledge from many fields. The character of the teaching field—its assumptions, propositions and organization—profoundly influences the kind of teaching syntheses that can and should be effected. The teaching field must be examined, then, for its potential contribution to the *professional* education of teachers, and accounted for accordingly in the curriculum.

Practice

The student planning to teach should perceive rather clearly the nature of the tasks for which he is preparing. In fact, he as well as his instructors should be able to formulate the questions posed by teaching acts. Student observation of practice becomes an essential part of the professional curriculum.

In the past, the observation of practice has presented some very real difficulties to the faculty members who would use such observation as one basis for organizing the professional curriculum. Arranging classroom visits for a large group of prospective teachers demands more time than the anticipated benefits appear to warrant. The particular observation opportunity needed at a given moment usually is not available. And, in a large group, few students observe the same classroom incidents; common reference points for discussion are thus lacking.

There is no need today for such obstacles to obstruct the inclusion of observation in the professional curriculum of teacher education. Closed-circuit television now makes it possible even for very large groups to observe practice together and to identify the questions

central to teaching. Extensive use of videotape is coming with the achievement of less costly means of preparation and production. Through such devices, students readily may become familiar with the demands of teaching and, under guidance from the faculty, begin to apply understandings previously acquired and to study familiar fields with new purposes in view.

In moving from observation to practice, the prospective teacher undergoes a crucial metamorphosis. He progresses from analysis to synthesis, from student to teacher. If he is a good teacher, he always will be a student, too, but a student who sees through a teacher's eyes.

Actual practice, then, is the test of professional behavior. It should be closely guided by teachers who have mastered the science of teaching in considerable depth and who have perfected the technology of teaching at the level of artistry. Practice should provide for protected innovation. Never again, in all probability, will the neophyte enjoy such a unique opportunity for "trying out" under conditions that permit drawing back before it is too late. In the practice of teaching, professional synthesis is perfected.

Implications and Conclusions

The foregoing pages present at least a partial rationale for developing the teacher education curriculum. To the extent that this rationale is sound, it is a guide to practical decisions concerning organization of the scientific foundations of teaching in the total teacher education curriculum, provision for technological application in the professional curriculum, and allocation and utilization of faculty.

An understanding of the fields of education and, for example, mathematics is necessary to application of knowledge from these fields at the level of teaching. There is no point in arguing *how much* prior study of both is desirable—obviously, as much as possible. The quantitative question has been answered in the past and is likely to be answered in the future on the basis of how much the traffic will bear and how much the college or university will allow. The professors of education and of mathematics undoubtedly will continue to lobby in the academic market place for their respective roads to the good life. Should they change their character, the world would be poorer—and much less interesting!

Two central curricular questions are likely to go unanswered in any strictly quantitative upward push toward five- and six-year preparation programs containing more and more of both education and the teaching field. First, what adaptations must be effected in these foundation fields if they are to be made most useful for the professional curriculum? Second, what specific arrangements of content and personnel will be most conducive to synthesis of pertinent understandings by the student? The preceding rationale suggests one kind of solution to these questions. There are conflicting viewpoints and the practices stemming from them are clearly evident in some existing teacher education programs.

One notion—a rather popular one, judging from practice—is that little can or should be done to assure personal synthesis through deliberately planning a curriculum to promote it. The student completes a major in mathematics, a required collection of courses in education and student teaching, discovering the inter-relationships where he finds them. This lack of any curricular planning for synthesis leaves far too much to the student.

Courses in the field of education carry similar titles from institution to institution, but the content differs radically. The introductory course is historical, philosophical, sociological, or a combination of all three, or is a group guidance

course on teaching and its demands. The course in methods usually is a general one which, because of the miscellaneous array of students in it, can do little more than present techniques of classroom management. When "special" methods courses are taught, only rarely does the instructor possess the unique combination of preparation and experience that might be hoped for in the person fulfilling such a demanding role.

Most of the content suggested above is entirely legitimate subject matter for the field of education. However, the great divergence in what is included in preservice teacher education suggests that we have not yet identified those ideas from the field of education that are most pertinent to teaching. Failure to bring together at some point in the curriculum the components essential to teaching suggests that we do not yet know much about the teaching act or, for that matter, the bearing of various fields upon it. Are we, then, asking students to act on the basis of inter-relationships perceived only dimly by their teachers? To affirm that the teaching synthesis is individual and unique and, therefore, that it cannot be induced through planning the curriculum is to indulge in escapism.

An extreme alternative to encouraging personal synthesis through curricular planning is elaborate care in planning the specific ways in which subject matter from education and from the teaching field might be fused in performing teaching acts. The subject matter of professional education thus becomes a field of its own, put together and laid out for student consumption. This cook-book approach is as prescriptive and restrictive as its opposite is chaotic.

This paper does not suggest the creation of a new field for teachers; but neither does it propose that the teaching synthesis be left to chance. Instead, it implies that the following next steps be taken in improving the professional education of teachers:

1. *That university faculty members in each of the teaching fields pertinent to high-school teaching examine their subject matter with a view to determining how it conditions, in fact disciplines, various decisions that teachers must make.* Thus, in time, they would extract certain concepts over and above the concepts of mathematics *per se*, concepts which are pertinent to teaching and, therefore, to the professional education of teachers. These concepts would then be organized and brought to bear upon the problems and practices observed by prospective teachers in the practice part of their professional education. The mathematics studied by these students prior to this time is mathematics *per se*—the mathematics basic to the education of engineers, accountants, physicists, and, for that matter, mathematicians.

2. *That university faculty members in the field of education examine their field critically to identify those concepts that appear most pertinent to teaching.* Thus, in time, they would extract concepts common to most teaching, whatever the teaching field might be. These concepts would not differ from those often dealt with in education courses. But they would have been culled rigorously from the field because of their supposed bearing upon teaching acts and would be taught in relation to those teaching acts for which they appear to have significance. We cannot afford the luxury of having future teachers select at leisure and at will from the present offerings in education as though all of them were equally pertinent to teaching.

3. *That representatives from the several appropriate fields join in seeking to apply to teaching what their respective studies suggest as significant.* During the past decade professors of education and of the various teaching fields have come far in accepting one another and

in recognizing mutual responsibility for teacher education. In the next decade, they must both clarify their separate contributions and implement the mutual contributions necessary to the effective professional education of teachers.

The separate responsibilities and contributions already have been suggested. The mutual responsibility is in team planning and teaching. Needed in the team is a professor of the teaching field, a professor of education, and a first-rate practicing high-school teacher. The focal points for analysis and discussion are the teaching acts themselves, as observed by the group and laid out as for autopsy on the conference table.

Perhaps in the process professor and student alike will come to understand the nature of professional teaching syntheses and the contributions of the respective fields to them. Perhaps in the process, too, the student will catch a vision of the creative teaching acts he might hope some day to effect.

He will not effect the acts examined in his professional curriculum, however. Nor should his instructors require him to. They will say, no doubt, "Go, thou, and do likewise." But he will not. Instead, when he comes to teach, he will say of models once dissected, "Get thee behind me, Satan," and will create anew.

A Single Profession

All of us will be increasingly concerned with the professional teacher, one to whom teaching is a career and who, amid the changing concepts of teacher employment and redeployment as in the teaching team, assumes leadership responsibilities.

Generalization One. If we are to move in the direction of high professionalization, all must be lifted to levels no single group could reach alone. Since we are Americans, we can do this voluntarily or have something far less desirable done for us.

Let us turn to a brief argument for one major aspect of the professional standards movement—namely, teacher preparation. The following are necessary assumptions:

1. All university or college staffs must co-operatively be responsible for teacher education. Current Ph.D. programs are teacher preparatory, whether or not one thinks of them this way. Further, what works one way must work another. If this is a joint effort, so-called "professionals" had better argue for professional preparation of Ph.D.'s as Ph.D.'s argue for academic preparation of elementary and secondary teachers.

2. All teachers need an apprenticeship as part of their preparation. As doctors became professional when moved to the bedside, so teachers must extend the comparable experience to assure a better than even chance of success. It is a strange twist of logic that spokesmen across the country look for break-throughs by gimmicks when the need for additional instructional apprenticeship screeches everywhere.

3. All teachers need to be selected. There is nothing quite so sorrowful as the brilliant researcher who cannot communicate to college students what he knows, unless it is the elementary teacher who emotionally exploits children for their therapeutic value.

Generalization Two. We must begin the process of cross-fertilization between academicians and teacher educators within newly conceived and specially purposed programs at the national, state, and local levels and mark out our channels of communication among them and the institutions of higher learning so that all of us recognize that our business is together—and the more quickly we get there, the better.—Lester Vander Werf, "A Single Profession for All Teachers," *School and Society*, September 24, 1960. p. 321-22.

Herman V. Yeager

Profession, Anyone?

Can teachers afford to postpone further the vigorous, positive, concerted action needed to achieve professional status?

RECENTLY a small boy of my acquaintance came home from school with an account of a classroom incident which deeply troubled his father. My advice was sought and I, in turn, solicit yours. Perhaps together, by focusing on this father's problem and on the helpless boy who eventually will pay dearly for our failure to come to the rescue now, we can take a step toward working out a solution to one of the most urgent questions facing our profession as a whole.

What had happened was simply that the boy's sixth-grade teacher had taught this lad to spell, in the following fashion, the name of the land over which Queen Elizabeth reigns: "B-r-i-t-i-a-n." The boy had taken a spelling quiz, and had written "Britain" on his paper. He is a voracious, highly retentive reader, and he had encountered the name "Great Britain" many times before. But the teacher marked his spelling incorrect, insisted that he spell the word with the transposed *a* and *i*, and penalized him when he demurred.

It was, of course, an easy matter to demonstrate to this teacher (an English major, by the way) the glaring error she had committed in this particular case. "To err is human," as Pope pointed out long ago, so that surely few among us would condemn this teacher forever because of this one mistake.

On the other hand, in a day of suspicions, short tempers, and sweeping generalizations about the schools, a single error by one teacher, whether in spelling or in serious judgmental questions, seems all too often to be taken as one more bit of evidence upon which eventually to base an indictment of the profession itself. We do well to remember, it seems to me, that our errors give rise to emotional reactions more frequently than to rational ones. Accordingly, I suggest that one of the most obvious and yet one of the least thoroughly explored avenues of status improvement open to us professionally is to find a way of offering an effective guarantee that we are indeed minimizing the chances that teachers' errors will occur. I suggest that we can best do this by professional action in the direction of attempting a kind of quality-control within the professional preparation of teachers.

In the case at hand, for example, the boy's father quickly moved from shocked indignation at what he considered evidence that his son's teacher was incompetent to major questions about the adequacy of her preparation for teaching. Just a short step further and he was deep into serious criticism of the entire theoretical and pedagogical background of the public-school system itself. Perhaps his position may be clearer to us if we try to see the problem from his point of view.

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The man himself, although his income is very modest, pays without a loud murmur about $40 a month in property taxes for the direct support of the schools in his district. In addition, he pays his full share of the state taxes which are needed to build, maintain, and staff the schools. He and his wife both participate in the Parent-Teacher's Association, are vitally interested in public education, and are—or at least have been until now—friendly, sympathetic, and understanding proponents of the theoretical basis upon which public education in the United States rests. He is on our side, both at the polls and in private debate. He wants teachers and teaching to succeed as fervently as we do. If, without hypocrisy, we are to call ourselves professional people, do we not owe to him, at the very least, a sustained effort to make possible the guarantee mentioned above? Doesn't he have every right in our society to demand this much of us?

Providing Assurance

But I venture the assertion that as a profession, we simply are not yet able to give him the assurance that his son's teachers are competent, adequately prepared, intellectually and emotionally equipped. And why? I think the answer is that we have insufficient evidence upon which to base such assurance.

Do we know, for example, how many (if any) other teachers in his school system are unable to spell the common words they are supposed to be teaching? Have we any experimental evidence on which we can found a confident assertion that in McGooch School every teacher *can* in fact spell all the words he or she uses? Or even all the words in the state list? Is there a principal in any state who would dare subject his certificated staff to a spelling test constructed by teachers themselves? Or to an arithmetic test? Or to a history or a science test? Or who would be willing to subject himself to such a test, even when constructed by his own peers in the profession?

Some school systems do, of course, rely upon the National Teacher Examinations. But I suggest that such reliance itself needs continuous experimental testing, and this, again, is a professional task.[1] The question about McGooch School can hardly be resolved by pointing to such tests as these.

And how about the colleges and universities which prepare teachers? In many of these institutions not so long ago an aspirant for a teaching credential was not admitted to formal teacher education programs until and unless he had demonstrated his mastery of a body of "essentials" which had been institutionally agreed upon. In the specific area of spelling, for example, this rule meant that a faculty committee had agreed upon a minimum spelling standard, had worked out ways of evaluating a candidate's proficiency, with respect to this standard, and considered itself able to accept or reject candidates accordingly. In how many such situations today would a candidate be asked to measure himself against even this kind of standard? Have we any experimental data to help us determine whether or not standards of this sort have proved trustworthy, and to what degree?

Finally, how about state certification requirements? Is there, at the state level, any determination of the kind of competence which the father of the boy I have written about demands of us? Do we *know*, when we issue a teaching certificate, and do we have evidence to enable us to *say* we know, that Miss A or Mr. B can indeed spell, or do fractions, or recognize and avoid a split infinitive?

Professional Standards

The crux of this man's problem is our own lack of professionalization, an obser-

[1] Cf., e.g., Anne Anastasi, *Psychological Testing* (New York: Macmillan, 1954) p. 516-21.

vation made over and over in the past. Can we afford to postpone further the vigorous, positive, concerted action needed to achieve professional status? If we cannot afford to sit on our hands a moment longer, what kinds of decisions need to be made?

Perhaps we might begin by agreeing that we need to confess frankly the timidity prevalent in our ranks in the face of the monumental influx of students characteristic of today's bulging population. We need to accept the fact that the professional standards we built so painfully have given way before the demands of our communities that we staff our schools. We need the humility to admit that we are not organized to do this staffing job as a profession, that we have failed to insist upon professional safeguards, and that we have abdicated our responsibility as a profession in the certification process. We have yet to set up a self-policing professional agency at any level—local, state, or national—comparable to the boards of the medical and legal professions. This has been said repeatedly, and idly.

Perhaps an illustration may make even clearer what our position is. Suppose that an insufficient number of physicians were available to care for the health of the people of a given community. Would the local community itself, in desperation, authorize by some sort of provisional license the medical practice of inadequately trained persons to meet the shortage? Would not, instead, community pressures be brought to bear upon the medical profession itself to remedy the situation, if the profession did not act on its own initiative? Would not the measure of precisely what constitutes adequate preparation and adequate competence remain the task of the medical profession, even in the face of short supply and great need?

Yet what is happening right now when our own profession faces precisely this kind of critical shortage? Does any one of us state openly to a school board that none of the applicants for a teaching job at McGooch School meets the criteria of the district, and that consequently none ought to be hired this year? Does any one of us admit that we simply are not able to offer the highest quality of education to all the children of McGooch School this year because of the teacher shortage, and therefore that salaries must be made higher (so that McGooch can attract competent teachers from other districts), or that part of McGooch School must be closed and some children denied education, or that sub-standard teaching for all must be accepted? Or do we instead reject as futile a continued effort to define operationally the kind of teaching competence we want in McGooch School, preferring to hire somebody to monitor the work of the sixth grade—thus guiltily abandoning conscience, ethics, standards, and the welfare of the children?

Professional Boards

But suppose that we ourselves, the members of the teaching profession, set up—*now*—a professional board. Suppose that we ourselves authorize this board to examine us and to assess our own shortcomings and our own strengths. I think we have the leadership and the courage to undertake such a daring venture in self-appraisal. Certainly we have many precedents.

We might take the work of Abraham Flexner in medical education as a starting model, if we choose. We might seek initial guidance in a restudy of past attempts to agree upon a set of operational definitions of teaching competence. Even at the local level this step could be taken.

Is it not at least possible than an extra-official, professional board—working closely with, but not tied to a state certification agency—might prove able to offer, in the name of the teaching profession, to examine applicants and to ap-

prove for teaching only those who fully meet the standards of professional competence we ourselves can agree to be minimal? Is it not at least possible that such a professional effort might obtain sufficient financial aid from one or more of the several funds now operating in this country—as, it will be remembered, was true in Flexner's case—to make such an undertaking practicable?

Could we then, as a profession, obtain the evidence we must have in order to say to the man who is so distressed by his son's miseducation in the incident we have been discussing, "Yes, here is a group of teachers, any one of whom we guarantee to be all that you ask for a teacher of your son"? I think we could—but we need to find out.

Under such circumstances, would this man, and the other men and women presently stirred to protest just as he is, then have reason to look upon ours as a profession which lives up to its own high ideals and noble aspirations in deed as well as in word? Would he and his neighbors from Maine to California then be willing to meet the increased financial obligations involved in seeing to it that only such teachers were put to work and retained in his son's school? Would we then have earned the right to adequate incomes, as practitioners of a profession? I think so—but we need to find out.

Finally, would not this kind of behavior put the onus of hiring and retaining sub-standard teachers—and thus the sad necessity of accepting responsibility for sub-standard education—squarely upon the local communities which choose to hire and retain them in the face of professional disapproval? Would this not help to demonstrate once and for all which of the current vitriolic criticisms are properly directed—and which are improperly directed—against the teaching profession itself? Would there not follow upon such positive action increased respect for, interest in, and demand for admission into, a truly professional corps of men and women who show that they can get their own house in order and keep it that way? Would tomorrow's teachers not be the very men and women who today turn aside from joining with us in the struggle against ignorance and bigotry because of low salaries, low prestige, and low status? I think the answer is "Yes."

Isn't it time for us to act to find out?

Responsibility for Quality

The profession's responsibility for the quality of education begins and ends in individuals. It is only through individuals that the profession can assume its full responsibility; it is only for individuals that the profession does assume responsibility. Without the concerted effort of individual members, it is doubtful that any group can reach maturity in self-discipline as a profession or can secure and retain professional autonomy. The fact is that the image of a profession is presented to the public primarily through the behavior of its members. Consequently, a most critical aspect of the entire Professional Standards Movement is the role played by each and every individual.—NEW HORIZONS IN TEACHER EDUCATION AND PROFESSIONAL STANDARDS, *A Preliminary Report* (*Washington, D. C.: National Education Association, National Commission on Teacher Education and Professional Standards, 1960*) *p. 27.*

Marshall D. Wattles
Henry Osibov

The Content of Teacher Education

Are charges that secondary teacher education programs are heavily weighted by courses in education justified? Is subject-matter specialization lacking? This report of a study made at the University of Oregon sheds some light on these important questions.

"WHAT is the truth," asks Professor Cogan, "about the frequent allegation that professors of education abuse their power by setting up college curriculums so overburdened with trivial and repetitious professional courses that the students preparing to teach in the secondary schools complete their undergraduate work with serious deficiencies in general and special (subject-field) education?"[1]

To determine the validity of this assertion, Dr. Cogan examined the catalogues of more than 100 colleges and universities which offer teacher education programs. The results are interesting and the study well worthwhile, but whether the charge is true is neither substantiated nor disproved by the study. Additional studies, focusing on other implications of the charge, are necessary to explore this oft-made criticism of schools of education.

Any university faculty member knows, and every perceptive student will sooner or later learn, that there is an important difference between the minimal requirements established for a curriculum and the total program actually carried by students in that curriculum during their four-year course. The way the gap is filled is often a significant part of the academic experience and depends on the practices of the institution, the philosophies of those who direct the programs, and current thinking on teacher education. Only by building a curriculum so prescriptive that no electives are allowed, or by examining the records of those who have been "through the mill," can we be certain of the actual composition of programs of teacher education.

Methodology

This study constitutes an effort to determine the pattern of secondary teacher education at the University of Oregon. From this it is hoped that some light will be shed on whether secondary-school teachers are both well educated and adequately trained. Also, the authors offer this as suggestive of an area where critical examinations have been much too infrequent.

In initiating this study the writers are aware of little, if any, disagreement with

[1] Morris L. Cogan, "Professional Requirements in Programs for the Preparation of High School Teachers," *Journal of Teacher Education* 9:271; September 1958.

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the proposition that secondary-school teachers should be well grounded in their teaching subjects, that they should have a broad and liberal education touching on three basic areas of human liberal knowledge, namely, the humanities, the social sciences, and the natural sciences, and that a comprehensive understanding and appreciation of the techniques of teaching and human development are integral parts of teacher preparation. They are aware, however, that a satisfactory categorizing of courses into such a pattern is both different and arbitrary. The approach taken is the most obvious one. The University of Oregon catalogue is used to determine in which departments particular courses belong and which departments should be classified as sciences, social sciences, and language and literature (humanities). All courses offered by the School of Education and carrying credit labeled "Ed (ucation)" are included in "professional education." Interdepartmental courses are classified on the basis of their content and purposes.

To determine actual course content of secondary teacher education, the transcripts of 108 University of Oregon graduates of 1958 were examined. The sample included only those graduates who enrolled in college for the first time not before September, 1953, and completed the bachelor's degree as well as preparation for a secondary-school teaching certificate in Oregon in June, 1958.

The 108 transcripts were distributed among major programs as follows: education, 24; health and physical education, 23; music, 13; business administration, 7; and liberal arts, 41. The term hours earned in each of the major divisions of the College of Liberal Arts and in each professional school were recorded, and the percentages of each program to fall within each of the categories were calculated. (See Table I.)

Analysis

The purpose of this paper is to set forth the general pattern of programs found in each major group and to make whatever comparisons seem warranted. While the investigators have not attempted to suggest the "right" pattern of courses, they have found it useful to refer to the three components of teacher education, i.e., professional education, teaching-field preparation, and general education, as the basis for comparisons. By discovering exactly what kind of education the majors are receiving, faculties in the schools and departments may see ways to improve their advice and requirements.

School of Education

Less than one-fourth of the 108 students included in this study declared education as their major. This may partially be accounted for by the fact that students wishing to qualify to teach in secondary schools must take from 9 to 42 hours of course work in subject-matter departments, although they must take only 21 hours in education. In some cases the subject-matter field could have been declared the major program instead of education. However, as a group, education majors earned an average of 10 to 16 hours more in education than did teachers majoring in the other areas of the University.

The average number of education hours for majors was 37.2, with a range from 30 to 54. Only five of the 24 earned more than 40 hours in education, and of these only two went beyond 50 term hours. Education courses comprised slightly less than one-fifth of the total programs of education majors. This is less concentration in the major field on the average than is found in any other group included in this study, and is less than the average share of time devoted to the major programs by any of the liberal arts major areas.

TABLE I
ALLOCATION OF STUDY PROGRAMS AMONG DIVISIONS OF COLLEGE OF LIBERAL ARTS MAJOR AREA AND SCHOOL OF EDUCATION

Classification		*Work in Major*		*Work in Education*		*Work in L & L*		*Work in Science*		*Work in Soc. Sci.*	
		Av. Term Hours	*Av. % of Total*	*Av. Term Hours*	*Av. % of Total*	*Av. Term Hours*	*Av. % of Total*	*Av. Term Hours*	*Av. % of Total*	*Av. Term Hours*	*Av. % of Total*
Departmental Majors											
English	(4)	51.8	26.6	24.7	12.7	88.5	45.5	13.0	6.6	35.0	17.4
History	(9)	44.2	22.7	26.7	13.4	32.9	16.9	13.1	6.7	89.0	45.8
Speech	(5)	53.6	27.9	24.8	12.9	79.8	41.5	12.6	6.6	43.2	22.5
Interdepartmental Majors											
Gen. Sci.	(6)	80.0	41.4	27.8	14.4	26.0	13.4	80.0	41.4	28.3	14.6
Gen. Soc. Sci.	(4)	92.0	46.7	25.0	12.6	27.0	13.6	22.0	10.6	92.0	46.7
Professional School Majors											
B.A.	(7)	72.4	37.8	22.0	11.4	15.1	7.6	11.1	6.9	48.7	25.3
Ed.	(24)	37.2	19.6	37.2	19.6	23.4	12.3	27.8	14.7	52.6	27.7
H. & P.E.	(23)	72.2	34.6	26.8	12.9	12.7	6.3	44.9	19.8	21.0	10.3
Music	(13)	108.3	55.6	20.5	10.8	16.9	8.0	6.9	3.5	19.5	9.9

The remainder of the work of education majors depends to a great extent on the subject specialization by each student. Some take a heavy concentration of courses in social sciences, while others acquire teaching fields in sciences, speech, or physical education. More of them acquire their specialization in the social sciences and physical education than in other areas, as they have on the average twice as much work in social science as they have in either science or language and literature. One-fourth of the education majors exceeded the state requirement for teachers of physical education.

If one accepts the work in the College of Liberal Arts as contributing to a liberal education, education majors do not fare at all badly. As a group they earned more than one-half their total credits in the College, and about two and one-half times as much there as in their professional school. In fact, 19 of the 24 completed as much (or more) work in one of the three divisions of liberal arts as they did in their education courses, and seven completed more work in two areas of the College than in their major. The neglected area for those in education was the humanities. Only students in music and business administration averaged less work in language and literature than did students in education.

School of Music

Students preparing to teach music in the secondary schools had the highest major concentration of any group considered in this study, averaging 108 hours in their major field. This constituted 55.6 per cent of their total collegiate experience. For the 13 cases studied, the major work ranged from 87 hours to 120 hours and only one of the students included had less than 100 term hours of credit in music.

This high concentration in the major field resulted in music majors having the lowest average number of hours of any major group in the College of Liberal Arts, where they took only a little more than one-fifth of their work. The music majors seem particularly to have neglected courses in science and language

and literature, as five carried *no* science courses (excluding psychology), and eight of the 13 had only a required sequence in language and literature. Of the eight who did have credit in science, none had more than the equivalent of one sequence. Only majors in business administration managed to do as little work in language and literature as did music majors, and no major group so effectively stayed out of the sciences. Majors in music also earned the lowest number of hours in education of any group to be certified.

School of Health and Physical Education

The 23 students who majored in health and physical education and qualified for inclusion in this study show considerable consistency in the courses taken and number of hours completed. On an average, they earned 72.2 hours in their professional school, or 34.6 per cent of their collegiate work. These hours were divided—55.1 hours in physical education and 17.1 hours in health.

These same students carried about as much work in liberal arts as in their own speciality, averaging 73.6 hours in the three divisions of the College of Liberal Arts. Much of this is in the natural sciences since the basic program in physical education requires 36 hours in science plus 9 hours in psychology. They earned about 10 per cent of their credits in the social sciences and only 6 per cent in language and literature. In fact, 13 of the 23 majors completed only the required sequence in language and literature. One may assume that in the absence of a requirement of at least one sequence in literature for *all* bachelor's degrees, most of this group would have never taken such a course.

The physical education curriculum is the most prescriptive of all which came within this study. The program lists 115 term hours of required courses, which includes 36 term hours in the natural sciences and 9 hours in psychology. It also includes 24 term hours in professional activities courses. When the additional hours necessary to fulfill the University's requirements are added to the curriculum of the School of Health and Physical Education, only 29 term hours remain for electives in other fields, if the students are to be graduated with the minimum hours.

However, "highly prescriptive" should not be interpreted as "narrow," from an educational point of view. Physical education majors are, as a result of their requirements, well educated in the sciences—much better than any other non-science majors.

Business Administration

The School of Business Administration requires that majors complete 72 term hours in business or related fields, 48 of which must be courses offered by the faculty of the School of Business Administration. Since the same work can satisfy both the teaching and major requirement, the 72-hour major should meet the minimal requirements in both. Actually, the range of hours in business, of students included in this study, was from 57 to 83, with an average of 72. These students carried an average of 75 term hours in the College of Liberal Arts, concentrating in the social sciences, which comprised about two-thirds of their liberal arts hours. This is undoubtedly accounted for by the fact that many of these hours count toward their major programs as well as toward completing requirements in another teaching area.

In the other branches of the liberal arts, business students were near the bottom of the group. As a group they averaged only 15.1 term hours in language and literature courses and they were next to the bottom in the natural sciences, with only 11.1 hours. Like most others examined, this group carried the minimum number of hours in professional education courses.

College of Liberal Arts

Forty-one of the students in the study chose curricula from the College of Liberal Arts as their major. However, only five major areas had four or more students in our sample, so only these are discussed here. They are English and history, 9 each; speech, 5; general science, 6; and general social science, 4.

English majors carried an average of 26.6 per cent of their four years of work in English and 45.5 per cent in the broader field of language and literature. The record suggests that many of these majors prepared for a teaching field in the social sciences, as they averaged 37 hours in that division. Every one of the English majors completed the equivalent of one sequence in the natural sciences, and none went significantly beyond that amount. For the most part the programs show a considerable uniformity, and only one of the nine included earned more than 50 per cent of his total work in the field of language and literature.

History majors also revealed a considerable uniformity in dividing their work among the areas of the College of Liberal Arts. Of the nine, four carried the minimum of 42 hours needed for the history major and none earned more than 51 term hours. They carried much of their work in other social sciences, undoubtedly as a means of fulfilling the requirement for teachers, but in only one case did a student have as much as 50 per cent in all the social studies together. Like the English majors, each history major completed only the required science sequence, and tended to concentrate outside his major division in the area of language and literature.

Only five speech majors were included in this study. They followed much the same pattern as those in history and English. Their area of concentration outside the major field was the social sciences, where, on an average, more than one-fifth of their credit hours were earned. And again, a required sequence in science seems to be the rule. In each case, education courses made up about 13 per cent of the four-year program and most students stayed near the minimal requirement.

The data show that students interested in speech more often do their outside work in social studies than in English, while those in English and history each carry considerable work in each other's areas. Undoubtedly, much of this is to qualify for a second teaching field; some of it must be the community of interests these fields have, or perhaps a common lack of affinity for the natural sciences.

The interdepartmental curricula—general science and general social sciences—require 72 term hours in the science and social-science divisions respectively, and each requires less in any one department than a regular departmental major. For present purposes, all science courses have been included in the major area of general-science majors, and all social science in the general social-science major programs.

The general-science majors averaged 80 hours in science, ranging from 72 to 100, and making up about 40 per cent of their programs. These students carried at least two sequences in the language and literature area and most carried the equivalent of three sequences in the social sciences. There was a considerable uniformity of programs, with the division of total work as follows: science, 40 per cent; social science, 15 per cent; and language and literature, 13 per cent. Of course, if one were to include the requisite 9 term hours of composition with the humanities, that area would surpass the work carried in social studies. But, for the most part, these students have a rather varied educational experience.

The four transcripts of general social studies majors revealed a little higher concentration in the major than did general science, and a less uniform pattern

of course work. None had less than 86 hours in social studies and the average was 92, or 47 per cent of their collegiate program. The work taken in the other areas of liberal arts ranged from 9 to 47 hours in science and from 18 to 42 hours in language and literature.

Again, each of these groups carried about the minimum in education, averaging 26 hours over the two interdepartmental groups. This made up about 14 per cent of their four years' work.

Conclusions

What conclusions can be drawn from the analysis of these programs? In the first place, the charges that teacher education programs are heavily weighted by courses in education are not justified on the basis of students' first four years at the University of Oregon. Only those who majored in education (and this is less than one teacher in five) averaged as much as 20 per cent of their work in professional-education courses. For the others, the time spent in education courses ranged from 10 to 15 per cent of the entire four years. Also, the tendency to concentrate rather heavily in the major area suggests that subject-matter specialization is not lacking in most programs.

It seems justifiable, however, to question whether those who are preparing to teach are being broadly educated. Except for students preparing to teach science or for those who meet the science requirements of the School of Health and Physical Education, prospective teachers are particularly adept at avoiding science courses. To a significant extent, many others omit courses in language and literature. If such deficiencies are eliminated, other segments of the present programs would have to be reduced. The writers present these observations because they believe these omissions should receive serious consideration; unfortunately, they do not have the remedies.

From this study a number of areas for further investigation are evident. What about the fifth year? Do teachers who return for their permanent credentials continue the same educational program they followed during their first four years? Or do they "load-up" with education courses, or concentrate in advanced subject-matter work? What happens during the fifth year may well be the most important next step to be examined.

Finally, what is the educational pattern at other institutions? We of the University of Oregon are interested in discovering the pattern of teacher education here; we are equally interested in learning whether this is the pattern of other comparable institutions.

We Should Use the Best Evidence

One of the more important rules of evidence governing the practice of law requires that, of the available documentary evidence bearing on a particular point, only the best evidence is admissible. By "best evidence" is meant that evidence which is most valid and credible. For example, if in the course of a trial, counsel wishes to show that a certain contract was in force between the parties, he is expected to introduce in evidence the contract itself if it is available, rather than a copy of it, an oral account of its terms, or a newspaper story about it. The contract is the best evidence of its existence and its provisions.

Similarly in educational or other research, we are expected to use the best available evidence bearing on the matters under consideration. For example, we should not use questionnaries to obtain data that is easily accessible from official records.—*"We Should Use the Best Evidence," (Editorial Comment)*, EDUCATIONAL RESEARCH BULLETIN, *February 1960, p. 44.*

Paul Hazelton

Student Teaching: A Hard Look

Because the preparation of teachers is education with a particular end in view, it must always contend with a clamor for more practicality—but practicality is not necessarily the same thing as realism.

NO BRANCH of education is regularly as self-critical as teacher education. There is about those who are involved in the preparation of teachers an almost habitual self-consciousness, and occasionally a gloomy introspection. Undoubtedly this is attributable in part to the nature of teachers and the nature of education. In teacher education, however, there can be no question that the attitude is also a result of the role that teacher and school play in American society, and of the conspicious problems that face those who are involved in preparing individuals for teaching.

Somewhat ironically, many of the new critics who rediscovered American education after the recent successes of Russian science have found in the chronic doubts of teacher educators prime evidence and confirmation of their charges. In more normal, more charitable times one might have contended that the self-criticism and skepticism of "educationists" was evidence of vitality and good health. Today one needs almost to resist a temptation to suppress these habits of mind lest they create new vulnerabilities or give aid and comfort to some of the more vociferous barnburners in education.

In all of the criticism that has focused on teacher education, both within and outside of the profession, very little of it has been directed toward the revision of student teaching. Of all the elements in the professional sequence of courses, it would seem to have been, if not unassailed, at least removed from the exposed positions that have drawn the heaviest fire. Indeed, the steady increase in the amount of time devoted to student teaching which has been noted in the years since the Second World War, appears to have continued unchecked in the years since the Russian "moon" went up. There are in fact many recent events and tendencies which would seem to further strengthen the position of student teaching and give additional impetus to programs for the "practical" education of teachers.

A Revision of Student Teaching?

Nearly half of the $9,000,000 which the Ford Foundation granted in April 1959 for what it termed "a breakthrough in teacher education" was allotted to a variety of internship programs, the common characteristic of which is the central place which student teaching occupies.

Fifth- and sixth-year programs, which have become the chief concern of many within the profession, reveal disagreements about many things, but seldom raise questions about the value of student teaching. It may well be that much of the harmony of the Second Bowling

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Green Conference in 1958[1] can be attributed to the possibility of an armistice between professors and professionals which a fifth-year program provides. Whether we are entering a period of disarmament or simply a cessation of hostilities has not yet become clear.

So far, the fifth-year program has offered to many a familiar soution to problems in education: If the time required is extended, then everything can be included. This is a solution that is always powerfully persuasive, yet, in some respects, it is often only a demonstration of a kind of educational Parkinson's Law. It doesn't remove, though it may temporarily obscure, fundamental disagreements; and it does not provide in any genuine way for the further development of education as a profession. Forcing an order of priority on a curriculum or on a course of study is a painful and difficult business at best. We cannot be blamed too harshly for seeking alternatives to it. Yet it must be done, and in so doing we are required to look hard at student teaching. How justified is its present position? What may be the consequences of the tendency to expand that position further?

What Does Research Say?

In finding an answer to these questions, one is confronted immediately by two rather formidable facts: first, the great disparity in present practice among institutions in their student teaching programs, and second, the absence of any very strong research evidence of the value of student teaching. One might object and say that these formidable facts are not peculiar to student teaching. They confront one who looks at any aspect of the study of education; for example, the study of the history of education. For that matter, such is the variety of American educational institutions and the nature of the research in education that these facts would confront any investigation of any subject at all. To such objections it must be said that the very practicality of student teaching means that it should be able to show evidence for its justification that one would never expect to find in a course in the history of education or a study, for that matter, of European history or most conventional subjects. Such evidence for student teaching, however, does not seem to exist. Much of the research has been only descriptive; too little has been qualitative.

A number of studies have been made about the relation of student teaching to the rest of the program in teacher education. In 1959, Brigham Young University conducted a broad study of the operation of student teaching programs in 90 per cent of the member institutions of the American Association of Colleges for Teacher Education. More limited aspects of student teaching programs were also studied in 1959 by Rodney Jones[2] in a doctoral project at Teachers College Columbia. Both of these confirm the existence of wide variations in practice among institutions in their student teaching programs. There are considerable differences in the amount of time, the hours of credit, the supervision, the part of the co-operating teacher, and the adjustment of academic work during the student teaching period.

In general, research on student teaching has provided conclusions that are at

[1] The first of a series of three national conferences for the purpose of bringing about a partnership of representatives of subject-matter and professional-education disciplines and of personnel in elementary and secondary schools for the improvement of teacher education. See *The Education of Teachers: New Perspectives*, Report of the Second Bowling Green Conference (Washington, D.C.: National Commission on Teacher Education and Professional Standards, National Education Association, 1958) 399 p.

[2] See "Off-Campus Student-Teaching Programs —Their Size and Importance," in this *Journal*, p. 512 to 519.

best equivocal. There are at least three broad categories for this research. A number of studies concern teacher traits and the mechanics of rating scales for measuring them, and most of these suffer from the common and unavoidable ambiguity of defining the problems of teacher education in this way. Closer to the center of the problem, perhaps, have been a number of correlation studies between student teaching and actual teaching performance. When they have not been downright negative, most of the results of these studies have been regrettably inconclusive.

The third category of research gives student teaching its widest and strongest support. There have been a number of studies of the evaluation of student teaching by students and inservice teachers who were asked to appraise retrospectively their preparation for teaching. For some reason the difficulties of this type of research have not been as obvious as those in the many studies of teacher traits. Most of the research evidence for the justification of student teaching seems to be found in this kind of appraisal, however. Unfortunately, they have most often the weakest construction.

For example, in asking students to evaluate the student-teaching experience, it is seldom clear that their approval is not simply a preference for an approximation of reality after many years of bookish education. Almost all the studies are open to doubt on the grounds that student teaching is rated against other courses. The results may, of course, then be in fact a judgment, not of student teaching, but of the other courses.

Possible Revisions

After an examination of the research on student teaching, one may conclude that the most valuable research on the subject is one more of the many problems backed up behind that log-jam in educational research: the measurement of teacher effectiveness. But pending the results of such research, it should be borne in mind that not only does the nature of student teaching imply a practicality unlike the expectations that can be made of other courses, but it also must be judged by its efficiency. This becomes especially true as we talk about increasing the length of the necessary education of teachers and as we tend to increase simultaneously the amount of time spent by each student in student teaching. The questions cannot be limited to simply discovering whether there is value in student teaching. Given some value, the question must be asked, in hard-pressed programs of teacher education, whether that value is justified by the amount of time allotted to it.

There may be very practical consequences to the expansion of student teaching programs, both for the study of education itself and for the ultimate advancement of the profession. Student teaching is a form of apprenticeship, of learning by doing. To be sure, it can be more. It can help to synthesize many separate elements in the preparation of the student teacher, although that too is an aspect of apprenticeship. Student teaching is often called a laboratory experience, but amid the welter of variables, this is more often a matter of terminology than of science.

John S. Brubacher, in presenting some very illuminating analogies between medicine and teaching, has made the point that the professionalization of education depends *not on further forms of apprenticeship, but upon further developments in theory*. The study of education must become a proper study for any man as well as an essential study for those who would teach. To move in directions that may diminish the growth of this study and the further development of theory may not finally achieve any very permanent advance.

Fifth-year programs that add valuable academic work while extending the amount of time given to student teach-

ing may divert some of the current criticism of the study of education, but it is unlikely that such criticism will be silenced. (Very few of even the most strenuous critics have objected to student teaching and the values of apprenticeship.) In our search for new patterns in teacher education we must be wary of those who offer a specious professionalism or mask the need for a more fundamental solution.

One of the most significant aspects of many of the existing fifth-year programs and of several of those supported by the Ford Foundation "break-through" grants is that they have succeeded in attracting into public-school teaching many liberal arts graduates, most of whom would perhaps not have entered the field. The value of these programs in this respect is clear and indisputable, and their impact on all of teacher education will increase, not only by reaching new sources for promising teachers, but by providing new opportunities for preparing them.

Whether fifth-year programs, especially in a time of widely felt teacher shortages, hold much promise as more than an isolated pattern can be seriously questioned, however. On this point the logic of the meeting on teacher education reported by Asahel Woodruff in the September 1958 issue of this *Journal* is persuasive:

> . . . until we can find the value of what we are now doing, it may be premature to add a year to the present four-year program. Our resources of time and manpower are not sufficiently abundant to allow a year to be used without clearly demonstrated need.[3]

To continue to expand student teaching within a four-year program can only be at the expense of other professional or academic courses. The only alternative to this in a four-year program would be to return to the schools some of the tasks of preparing the beginning teacher. The growth of business and industrial training programs for new college graduates does not yet have, to any appreciable extent, a counterpart in education. The use of the apprentice or assistant teacher in team-teaching schemes is suggestive, but it has not been offered as a possible replacement for the student-teaching program. Yet it might be. In such a pattern, an opportunity for conscientious rather than perfunctory supervision could give experienced teachers a role of great importance. For the beginning teacher, such a program might have an obvious relevance that student teaching often does not now have.

Because the preparation of teachers is education with a particular end in view, it must always contend with a clamor for more practicality, but practicality is not necessarily the same thing as realism. During the first days and weeks of school, the need for practical advice and information will always seem boundless to the beginning teacher. Some teachers, it is true, never feel the need of anything beyond practical advice. But the institutions that prepare teachers should resist any easy compliance with these demands.

Now more than ever it can be said that today's schools will not be tomorrow's schools. The essence of an educational institution derives from the belief that theory and ideas are its chief concern, and that they are the most realistic preparation for a swiftly changing present and ultimately the most practical in an uncertain future.

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[3] "Problems in Improving Teacher Education," *Journal of Teacher Education* 9:243-47; September 1958.

Arthur Blumberg

Group Methods in College Teaching

AN EFFORT to deal with classroom methodology on the college level is in need of some prefatory comments. Centrally, it might be said that any discussion concerned with pedagogy in higher education is quite apt to meet with resistance before the discussant has proceeded much beyond his initial focus. There are a number of reasons for this which can be summarized as follows:

1. Teaching methodology is perceived to be a non-academic factor. If a person possesses a body of cognite knowledge, there is an implicit assumption that he is trained in the skills and understanding related to how the material is learned most effectively.

2. The employment of a person to teach on the college level appears to constitute *a priori* evidence for the employee that he is a good teacher. This point is illustrated in a study by the American Association of University Professors:

> The conclusions stressed the fact that about every college teacher considers himself to be a good teacher and there was no known technique of convincing him of the contrary.[1]

3. The idea of changing teaching methods implies the perception that what one is now doing is not quite good which, in turn, means that the teacher is not quite as good as he pictured himself—not a pleasant prospect.

These factors readily transform themselves into communication blocks in any consideration of method. The result is quite likely to be an unspoken "you do it your way and I'll do it my way" kind of agreement. Although no one would deny the right of a college teacher to instruct in the manner he feels to be best, it may be this rejection of possible change that makes for the repetitious and, in many cases, stultifying kind of learning experience to which many college students are exposed.

The Classroom as a Group

The problem of the group and its relationship to teaching and learning cannot be easily dodged or relegated to low-class priority. The pressures of rising enrollments, acknowledged defects in our educational system, and the demands currently being made on the schools and colleges to produce more learned persons make it more imperative than ever that any and every kind of possibility be explored that has the potential of making higher education better than it is.

To say that every college classroom is a group implies the use of the term in a limited sense. That is, there are certain *kinds* of factors operating in every classroom that are common to all group situations. Jenkins[2] has indicated that the

[1] R. B. Norris, "Relative Value of Selected Practices for the Improvement of College Instruction," *Journal of Educational Research* 49:203; November 1955.

[2] D. H. Jenkins, "Interdependence in the Classroom," *Journal of Educational Research* 45:137-44; October 1951.

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primary factor is that of interdependence in the areas of both emotional and intellectual learning needs. The point that Jenkins makes is that both the students and the teacher will derive more and give more to the class in direct proportion to the degree to which their emotional and intellectual needs are satisfied.

The interdependence factor would seem to make sense in terms of the relatively small college class. But what about the large lecture class with student enrollment running into the hundreds? Does the same thing hold true? The answer has to be in the affirmative. People are still people, with basic needs—whether they are in a large or small group situation. The salient difference is that in the large class the satisfaction of these needs becomes more difficult to achieve.

There are other factors relating to the classroom group that also must be taken into consideration. Every instructor, for example, is familiar with group standards and pressures, though he may not use this specific terminology. The "gentlemen's grade" of C is perhaps one of the most common (though by no means universal) classroom standards. This is the subtle pressure exerted *on* students *by* students not to excel—or, if you do, make sure that no one knows about it, for then you become a "curve-raiser." This implies deviation from the group norm and, if it results in teacher pressure on the rest of the class, possible rejection and isolation of the offending student by the other class members may follow. In this connection, the writer was once asked by a student not to return, in the presence of the class, a term paper he had written *if that paper were graded "A."*

Related to this standard of mediocrity is the often exasperating experience of "I can't get them to talk about the subject or even to ask questions." In this regard, several years ago the writer conducted an informal survey of student feelings about classroom participation on the verbal level. Approximately half of the students who took part in the study indicated that what hindered them most from discussing or asking questions and raising issues was the manner in which they *felt* they would be perceived by their instructor and their classmates if they did talk. They were afraid to show what they thought was their ignorance on the one hand, and, on the other hand, to be seen as "apple-polishers." The point here is that the phenomenon of group pressures may act as a very successful inhibitor for a great many students on what might be highly desirable verbal contributions.

Arising out of these considerations, and making them more perplexing, is what may be thought of as a central dynamic of every college teaching situation—the factor of anxiety, both of an individual and a group nature. McKeachie makes this point when he says:

> The college student who looks toward the front of the classroom sees personified in his instructor the grades which will determine whether he can stay in school, enter graduate school, or obtain a good position upon graduation.[3]

Anxiety, by itself, is not necessarily bad. It may well prove to be a strong motivational force for some students. But, by the same token, anxiety may serve as an extreme blocking force for others. All teachers have witnessed, for example, the "freezing-up" of students before or during examinations. The point that does call for further thought, however, is the mere fact that the college classroom, by its very nature, is anxiety-producing. Once instructors have

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[3] W. J. McKeachie, "Anxiety in the College Classroom," *Journal of Educational Research* 45:153; October 1951.

achieved an understanding of this facet of classroom life, as well as the others mentioned, they become better able to decide how it can contribute to learning and in what ways it inhibits learning.

To be more explicit, we are teachers of mathematics, English, history, psychology, and so forth. Our very professional titles carry the implication that we are conveyors of subject matter, and that the recipients of our message take a most decided second place. However, as many of us have discovered, the psychological state of these recipients, which is, in large measure, dependent upon the interpersonal dynamics of the classroom group, has a great bearing on their ability to learn and on our success as teachers.

So it would seem that an understanding of the facts of classroom group life, as well as an understanding of individuals, should take its place alongside competency in subject matter as a necessary ingredient to good college teaching. Perhaps this understanding, if it can be interpreted as such, is the primary group method.

The Effectiveness of Group Methods

In this context the term "group methods" is taken to mean the employment of the various group potentials of the classroom to enhance learning. In regard to techniques, it may mean class discussion, co-operative planning, buzz groups, role-playing, observation groups, student-centered or permissive teaching. It is not the purpose here to examine each of the techniques. Rather, we will consider the results of some research projects that have been conducted, our aim being to study the effectiveness of group methodology in college teaching.

Much of the research that has been done in the colleges attempts to compare the straight lecture type of course with experience in the use of one or more group techniques. The results, varied and conflicting, have been summarized by Bovard:

> Available experimental evidence indicates that the amount of student-to-student interaction in a classroom has no statistically discriminable effect on a number of variables, including learning of objective content, liking for the classroom teacher, and evaluation of the teacher's performance by the students. The same evidence, however, clearly indicates that the amount of such interaction has a decided effect on such non-content variables as perception of an objective stimulus, liking for other students, and spontaneity of behavior.[4]

Bovard further says that it appears that "perhaps the most subtle and important effect of interaction was on the variables of human behavior that do not lend themselves immediately to statistical treatment."[5]

Haigh and Schmidt lend support to this contention in their study of teacher-centered as opposed to group-centered teaching. They found no significant difference in the learning of subject matter as measured by objective examinations, even when the students were permitted to choose the types of classes they wished. However, as reported by these authors, a corollary study to theirs gave indications that a personality difference exists between the students who choose one type of class and those who choose another. These differences

> . . . suggest on the one hand the picture of a student who is flexible in his thinking, able to cope with inconsistencies and ambiguities, understanding and accepting of himself, and probably able to enjoy and profit from the give and take of group discussion. On the other hand they suggest the picture of the student who seeks the definite, the concrete and the ordered, avoiding ambiguity and inconsistency, and seeing himself (and life) in stereotyped ways and who is probably

[4] E. W. Bovard, Jr., "The Psychology of Classroom Interaction," *Journal of Educational Research* 45:215; November 1951.

[5] *Ibid.*, p. 221.

able to gain most in satisfaction and knowledge from a teacher-centered class.[6]

Thus it seems that the experimental evidence available does not indicate that group methods are superior for the learning of subject matter. (An early study by Bane, however, showed that "the lecture method is more suitable for the immediate recall of subject matter than for its retention at a later period, while the reverse is true for the class discussion method."[7]) What is of great interest—the learning of subject matter notwithstanding—is the apparent potential in group methodology for the exercise of certain human variables that are considered highly important for our way of life.

Student Perceptions of the Relative Value of Teaching Methods

Work has also been done testing students' perception of the value of permissive, as opposed to directive, teaching methods. In a study reported by Wispe[8] it was found that a majority of students preferred directive teaching with an examination emphasis. They felt they "got more meat." The students in the "permissive" classes enjoyed them more but did not consider them as valuable. In addition, the teaching method made no significant difference on the final examinations for the brighter students, but there was a significant difference for the poorer students, i.e., they did better in the directive situations. Other impressions received by Wispe are that permissive teaching requires highly skilled, mature teachers and that the real values of this type of teaching are not seen immediately.

On the other hand, Brooks and Davis report different student feelings about teaching methods in their study. For example, they state that "college students appear to be ready for more varied and differentiated teaching procedures than are probably being used in many college classrooms."[9] This conclusion is based on the results of their research which indicated the following:

> It would seem that a majority of those answering the questionnaire endorsed the techniques which promoted mutual understanding and friendly relations of the teacher and learner and which gave the class an opportunity to function as a group and not just a collection of individuals.[10]

Thus, it is evident that we are confronted with differing viewpoints and results of research. But through it all there seems to run some kind of common thread. It would almost appear to be the kind of feeling that says to us, "There is something in this that bears attention. We must look further."

But what is the individual college teacher to do in the face of research which seems to be contradictory and casts doubts as to whether group methods actually do the job of teaching subject matter better? Quite possibly there is not a simple answer to this question. Rather, the answer may be found by posing some further questions, the replies to which must become personal to every instructor. Some of these questions might be the following:

1. What are my aims in teaching? By what methods are my aims accomplished best?

2. How do I look at myself as a teacher? Am I willing to expose myself to the

[6] G. V. Haigh and W. Schmidt, "The Learning of Subject Matter in Teacher-Centered and Group-Centered Classes," *Journal of Educational Psychology* 49:300; May 1956.

[7] C. L. Bane, "The Lecture vs. the Class-Discussion Method of College Teaching," *School and Society* 21:302; March 7, 1925.

[8] L. G. Wispe, "Evaluating Section Teaching Methods in the Introductory Course," *Journal of Educational Research* 45:161-86; November 1951.

[9] L. A. Brooks and L. R. Davis, "Student Opinion Regarding Instructional Procedures on the College Level," *Teachers College Record* 56:337; March 1955.

[10] *Ibid.*, p. 334.

sometimes sharp, sometimes dull phases of group interaction? What do I have to gain? What do I have to lose? Am I secure enough to tolerate the inevitably slow process that students have to go through in order to understand complex cognitive factors? Do I have a need to "do the telling" that overshadows everything else? Do I like people?

3. What do I expect from my students? Can I accept their ignorance of things that I know and resist an urge to lay my own understanding before them prematurely, thereby stifling their inquiry and curiosity?

4. Wherein does my subject matter call for teaching methods other than the lecture or recitation?

5. Is it possible for me, as a person, to change my way of doing things?

The answers to these questions can be given relatively easily on an intellectual level. In terms of changing attitudes and behavior it may be a very different matter.

Conclusion

It might be possible to construct a balance sheet regarding group methods in college teaching. They are slower than more traditional methods—an invitation to students to slough off, potentially, a sharing of ignorance—and not proved to be more superior in regard to the objective learning of subject matter. On the other side of the ledger, group methods have the potential for making what has been learned more lasting, developing problem-solving skills, and stimulating freedom of thought and inquiry.

No attempt has been made here to reject once and for all the lecture and the recitation from the college scene. Each of these methods certainly has its place. But it seems only reasonable to suggest that college teachers owe it to themselves and their students to inquire into areas of method that may help them do their jobs better.

Rabbit Stew

. . . If I may revert to the homely example of the time-honored recipe for rabbit stew . . . the first element is to "catch your rabbit." The first essential for good teacher education is to search out the men and women who are best qualified to become teachers. We must identify these people early in life, the earlier the better, and we can then have at least some reasonable assurance that we are devoting our educational energies to those who really should be in our profession. And there is no reason why this sort of process cannot be undertaken in an organized, systematic way. If it is possible to develop and maintain systems of recruitment in other walks of life, the same kind of approach is possible in recruiting teachers. In fact, our chances of success are greater because we have so much normal and regular contact with young people and because we inevitably come to know so much about them.—*Samuel B. Gould, "The Essence of Accreditation," in* THE EDUCATION OF TEACHERS: CERTIFICATION, *Report of the San Diego Conference, San Diego, California, June, 1960. (To be published January, 1961, by the National Education Association, National Commission on Teacher Education and Professional Standards, Washington, D. C.)*

P. W. Hutson

Who Shall Control the Content?

Is the "all-institution" approach to the control of education courses really wise, or are its proponents merely glossing over the weakness of the position they have accepted for departments of education?

VOLUME 9 (1958) of the *Journal of Teacher Education* is replete with expressions of the idea that the education of teachers is a responsibility to be exercised jointly by the education and liberal arts faculties, if not, indeed, by all the faculties which may form the institution of higher education. L. D. Haskew pleads for the establishment of "university councils on teacher education composed of representatives of all academic interests."[1] The "Editorial Comments" for this issue[2] speaks of the "necessity for all-institutional planning of the teacher education program," "co-operative planning," and "co-operative determination of the teacher education program." President Hancher, of the State University of Iowa, Iowa City, apparently does not disagree with these sentiments but feels nevertheless that the solution of his university is the happiest.[3] At that institution the College of Education has a faculty, but no students. The education faculty teaches professional courses in education to students who desire certification for teaching, but such students are given their content training in liberal arts and meet the degree requirements of that school.

In another journal, Lindley J. Stiles has given a description of the all-university control of teacher education which prevails at the University of Wisconsin, explaining that the faculty of the School of Education consists of 585 professors and administrators in 66 departments.[4]

[1] "The Real Story in Teacher Education," 9:126; June 1958.

[2] 9:118-23; June 1958.

[3] "Perspective on Teacher Education," 9:413-20; December 1958.

The University of Pittsburgh Plan

The purpose of this article is to present by example a method of control of the content preparation of high-school teachers which is in sharp contrast to that which has just been described. More than 30 years ago a survey[5] of high-school teaching positions in Pennsylvania made it clear that the rules of liberal arts education could not assure the sound preparation of high-school teachers. Acting upon the findings of this survey, the faculty of the School of Education of the University of Pittsburgh in its 1926-27 *Bulletin* substituted for the usual "distribution fields" of liberal arts the following requirements: general psychology, 6 credits; English, 14 credits; social studies, 8 credits; and natural science, 8 credits. The *Bulletin* introduced the description of content training for high-school teaching in academic fields as follows:

The majors and minors which the student may present in the curriculum for high-

[4] Lindley J. Stiles, "The All-Institution Approach to Teacher Education," *Phi Delta Kappan* 49:121-24; December 1958.

[5] Edward A. Fitzpatrick and P. W. Hutson, *The Scholarship of Teachers in Secondary Schools* (New York: the Macmillan Co., 1927) 208 p.

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school teaching are defined with considerable exactness. The requirements which follow are based upon careful study of the positions open to beginning teachers in western Pennsylvania and the preparation needed to teach effectively the high-school subjects. The minors for each major are named in the order of frequency of their appearance with the respective majors in typical high-school teaching assignments. The minors given in italics *are required* with the majors which they follow.

A major subject and two minor subjects must be selected from the following lists according to the restrictions indicated:

Majors	Minors (Choose Two)
English	Public speaking, history, social science, Latin, French.
History	*Social science,* English, mathematics, biological science, public speaking.
Social Science	*History,* English, mathematics, biological science, public speaking.
Latin	English, French, history, mathematics.
French	Latin, English, history, mathematics.
Mathematics	Physical science, history, social science, biological science.
Physical Science	*Biological science,* mathematics, social science, history.
Biological Science	*Physical science,* mathematics, social science, history.

This was followed by three pages of descriptions of each major (24-36 credits) and minor (18 credits), indicating the content of each in terms of the courses which were to be selected from the departments of the liberal arts college.

This curricular direction has substantially prevailed ever since 1926. At first, students entered the School of Education as freshmen, but after a few years freshmen were received into the School of Liberal Arts and applied for admission to Education in the fourth semester, then being screened for quality-point average, capacity in written communication, physical fitness, and personal attributes. Of undergraduate courses in education, "Introduction to Teaching" and "Practice Teaching"—both required for teacher certification in Pennsylvania—have been open for registration only to education students. Thus it has not been possible for students to qualify for teacher certification while remaining liberal arts students.

The major assumptions of this plan may thus be seen to be as follows: (1) The School of Education is responsible for the education of teachers—their background in liberal education, their preparation in content for their teaching positions, and their professional courses. (2) The School of Liberal Arts is the heart of the University, offering a wide variety of courses. Education draws upon Liberal Arts for the courses which fill the needs of its students, just as do the Schools of Engineering, Commerce, Dentistry, and others. Approximately five-sixths of the credits of students in secondary education are taken in liberal arts, but the education faculty selects them.

Mutual Respect

The more than three decades in which this plan has prevailed have been years of good will and mutual respect between Education and Liberal Arts. Communication has been easy and frequent. Revisions have often involved the School of Education's request to a liberal arts department to offer a given course. Occasionally, joint committees have been formed for the careful study and re-casting of the major or minor or both in a given field for education students. Special methods courses have always been carried in the Department of Secondary Education and as the responsibility of that Department. Instructors of these courses have sometimes been full-time members of the Department who have shown evidence of adequate scholarship in the subject-field, as well as having had secondary-school teaching experience. On

the other hand, on the initiative of the Department of Secondary Education, and by mutual agreement, a member of a liberal arts department has sometimes been appointed to teach a special methods course. The instructor of special methods has usually supervised student teaching in the corresponding subject field.

The School of Education's definitions of the subject major and minor have not always been satisfactory to members of the School of Liberal Arts. For a number of years, the undergraduate curriculum committee of the School of Education received a petition from the head of the Department of History to liberalize Education's definition of the history major and minor, so as to permit the student to apply courses in Latin American history. The petition was always denied; the committee did not deny the value of a knowledge of Latin American history, but felt that within the requirement of 24 credits, other history courses were of greater value in the preparation of high-school history teachers.

Similarly, the head of the Department of English each year requested the elimination of a requirement of 4 credits in American literature from Education's major and minor in English. The petition was denied because the committee was aware of the fact that much American literature features the high-school course of study in English and felt that prospective English teachers should assuredly have at least minimal preparation for teaching it.

New Standards

In 1959 the Pennsylvania State Council on Education established new standards for subject certification. The School of Education has the responsibility not only of preparing its students to meet those standards, but also of preparing them as well as possible within the limits of a four-year curriculum. In 1959, as in 1926, the requirements of the School of Education, in numerous particulars, went beyond the requirements of the state. Furthermore, the permissible combinations of subjects was established in the School of Education curriculum, as was done in 1926.

As a basis for this latter step, the 1958 schedules of 60 secondary schools in western Pennslyvania were analyzed to find the existing subject combinations in teachers' loads. The schedules studied were for junior-high schools, senior-high schools, six-year schools, and four-year schools. Since the consolidation movement is rapidly reducing the number of small high schools in Pennsylvania, only schools enrolling more than 500 pupils were included in this survey. In 1958-59, 63.4 per cent of Pennsylvania's secondary schools were in this category, and they enrolled 84.9 per cent of the pupils. The major findings from this analysis of teaching loads are presented in Table I.

Naturally, some teachers' loads represented combinations of academic subjects with the special subjects, such as physical education, music, art, and practical arts. These facts are given attention by those responsible for teacher education in the respective special subjects.

In the light of this survey of teaching positions, in recognition of the state's requirements for subject certification, and from the vantage point of a knowledge of high-school subjects, the Department of Secondary Education in the School of Education has established 23 combinations of teaching subjects and requires the student to elect and complete one of the combinations. From 48 to 82 credits are required in these combinations, although in many combinations from 6 to 18 of the credits count also as courses in the liberal arts requirements of the freshman and sophomore years. The total number of credits in required liberal arts and professional courses, and in the content of teaching combinations, varies from 106 to 122.

The "major" and "minor" terminology has been abandoned as impracticable under the new Pennsylvania certification requirements. Instead, the student prepares in a combination of "teaching

TABLE I
ANALYSIS OF TEACHING LOADS IN PENNSYLVANIA SECONDARY SCHOOLS HAVING 500 OR MORE STUDENTS, 1958–59 *

Subjects or Subject-Combinations	*Number of Teachers*
English, and Combinations Within the Language Arts	353
English Combined with a Foreign Language	70
English Combined with Social Studies	52
Mathematics	232
Mathematics Combined with Science	37
Mathematics Combined with Social Studies	18
Foreign Languages Alone and in Combination	71
Foreign Languages Combined with Social Studies	12
Social Studies Separately or in Fusion Courses	231
Social Studies in Combinations Within the Field	79
Social Studies Combined with Science	20
Sciences Singly or in Combination	202

* This represents 84.9 per cent of Pennsylvania students, enrolled in 63.4 per cent of the secondary schools of the state.

fields." It is not possible, as indeed it has not been possible since 1926, for a student in the School of Education to "major" or "minor" in economics, political science, or sociology. High-school teaching positions in Pennsylvania do not warrant such narrow specialization.

Other Procedures

In contrast to this procedure at the University of Pittsburgh, what happens where "all-institutional" planning of the curriculum in teacher education occurs? The *Bulletin* of the School of Education of the University of Wisconsin for 1957-59 describes majors and minors in "American Institutions," "Botany," "Comparative Literature," "Biological Aspects of Conservation," "Economics," "Hispanic Studies," "Physiology Minor," "Political Science Minor," "Sociology and Anthropology," and "Zoology." Without a knowledge of high-school teaching positions in Wisconsin or the certification requirement of that state, it would be presumptuous to criticize the content training of teachers at this University. One can only wonder at the specializations which are permitted and also at the absence of any stipulations concerning the combinations of subjects.

As for the State University of Iowa, a recent *Bulletin* of the College of Education lists course requirements for the undergraduate program in secondary education under three headings, as follows: "(1) General Requirements for Graduation from the College of Liberal Arts, (2) Areas of Subject-Matter Concentration, and (3) Required Professional Courses." The "areas of subject-matter concentration" are described as follows:

a. A sufficient number of courses to satisfy the requirements for a teaching major in a department within the College of Liberal Arts or the College of Commerce.
b. A sufficient number of courses in a field outside the area of the major to obtain approval by the University for teaching in this minor field.

Turning to the *Bulletin* of the College of Liberal Arts, one finds the following among the "areas of concentration or majors": bacteriology, botany, dramatic arts, economics, geology, journalism, political science, psychology, religion, sociology and anthropology, and zoology. At Iowa there is no pretense of defining and controlling the content preparation of high-school teachers in terms of high-school teaching positions.

In the opinion of this writer the enthusiasts for all-university planning and control of teacher education are merely glossing over with honeyed words the weakness of the position they have accepted for education. Engineering does not have its curricula constructed and controlled by an all-university council on engineering education. Neither does commerce. And certainly not medicine, law, or dentistry. Why should education?

Ruth E. Eckert

Responsibilities for Leadership in the Study of Educational Problems

ALTHOUGH American schools and colleges have seldom faced greater challenges, faculty members in schools and departments of education are apparently giving less time to systematic study of their professional problems than their colleagues devote to research in their own particular fields.[1] This is not because professors of education are giving less time to their jobs, but because heavy instructional and committee loads and insistent demands for off-campus services are crowding out opportunities for scholarly reading and research. Recent studies suggest that this is true not only of junior staff members but of the senior faculty in education, where primary leadership must rest for creative study and experimentation in this field.

Challenged by such disquieting findings, the faculty of the University of Minnesota's College of Education has been striving to clarify its responsibilities for educational research. Although a special committee appointed for this purpose also contributed to the American Educational Research Association's study of this problem, the committee's primary concern has been to investigate and improve the status of research locally.[2]

The committee's study of this problem has included some investigation of individual faculty members' activities and attitudes, as well as general faculty discussions aimed at discovering major hindrances to research. Interviews with young staff members, for example, revealed the need to clarify college policies regarding the initiation and support of research and to encourage such endeavor more strongly, particularly at the departmental level. In the two general faculty meetings held, an emergent policy statement on the College of Education's role in research was vigorously discussed and some consensus reached as to what the College's position should be on each of the proposed points. Since these drafts were circulated well in advance of the general sessions and faculty members were urged to bring written notes, to send in letters, or to comment orally at the time of these meetings, many useful suggestions were obtained for its revision.

The document that has recently been adopted as a working statement of college policies with respect to research may be of some interest to other faculties struggling with this problem, as well as to those that have not yet initiated such discussions. The preface and 18 principles outlined in the report are reproduced below, to suggest the types of questions that have been explored and at least partially clarified through these discussions:

[1] Ruth E. Eckert, "Who Teach in Departments and Schools of Education?" *Journal of Teacher Education* 10:497-502; December 1959.

[2] Members of this committee included, in addition to the writer, who served as chairman, Doctors Walter W. Cook, Mary Corcoran, Dale B. Harris, Cyril J. Hoyt, Donovan A. Johnson, Palmer O. Johnson, and Maynard C. Reynolds.

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Working Statement on the Place of Research in the College of Education, University of Minnesota

A college of education in a distinguished university must strive for excellence in all its functions. Whatever teaching it does must be of high quality: its research must measure up to similarly exacting standards; so, too, must its public service. And since these are complementary functions, whatever is done to strengthen or improve one aspect should help to promote excellence in the total college endeavor.

The purpose of the present policy statement is to clarify the role of research in the College of Education, since the obligation to advance knowledge sharply distinguishes this college from hundreds of other teacher-preparing institutions. Whereas all schools and colleges provide instruction, and service enterprises reaching out into the community and state are common at all levels, research as an organized activity and explicitly recognized faculty responsibility characterizes only a small proportion of institutions, principally the universities. Unless these institutions make a concentrated attack on basic educational problems, the profession will lack the body of theory and substantive knowledge required for sound practice.

I. *The Nature and Role of Research in the College of Education*

Principle A. "Research" is conceived to include all forms of scholarly work aimed at discovering new knowledge or at making creative interpretations, organizations, or applications of this knowledge. It may involve experiments in the laboratory, clinic, or classroom, requiring considerable apparatus and equipment; it may be abstract and theoretical, demanding few facilities beyond paper and pencil.

Principle B. A college or department of education in a leading university has special responsibility for the stimulation and conduct of educational research. This obligation to advance the frontiers of knowledge requires that the College be constantly pioneering in new methods and approaches to the study of educational problems.

Principle C. Fundamental types of studies are undertaken to develop the capital stock of ideas and theories upon which all real improvements in education must depend.

Principle D. This commitment to research is clearly expressed in college statements, and fully understood by faculty members, students, and the supporting clientele.

II. *Individual Faculty Member's Responsibilities for Research*

Principle E. The University faculty member is, first and foremost, a scholar in his field. A distinctive "mark" of his membership in the university community is his strong interest in and commitment to research.

Principle F. The university faculty member deliberately limits his participation in activities of a purely service nature. Insofar as he does participate in them, he does so as an extension of his university role of scholar, teacher, and research specialist.

Principle G. The university faculty member emphasizes research in his teaching at both undergraduate and graduate levels.

Principle H. The university faculty member constantly stresses the importance of quality in his own, his students', and the College's research.

Principle I. The university faculty member communicates effectively the results of his own studies, and encourages a similar sharing of others done under his direction.

Principle J. The university faculty member is courageous in defense, and active in urging the importance, of his position and responsibility as scholar, researcher, and teacher.

III. *Responsibilities of Departments and Sections*

Principle K. Organized departments and section groups of the College are responsible for helping to chart the research program in their specific area, without jeopardizing the individual scholar's right to study the problems he deems most important.

Principle L. As the agency most directly concerned with the curriculum, the department promotes a strong research orientation in its instructional program.

IV. *Responsibilities of the Bureau of Educational Research*

Principle M. The principal functions of the Bureau are to investigate important edu-

cational problems and to give leadership in inventing and applying appropriate research methods and strategies to the study of these questions.

Principle N. The Bureau implements faculty research efforts to the extent to which this function does not interfere with the primary responsibilities sketched above.

Principle O. The Bureau provides internship experiences as a part of the training of research workers in education.

V. *Responsibilities of the Dean's Office*

Principle P. The dean and his associates give continuing leadership and support to the general research endeavor, as to the other phases of the program.

Principle Q. The College's commitment to research is implemented through policies likely to attract and hold qualified scholars, since these policies will determine, in the long run, whether the college will have a strong, ongoing research program.

Principle R. Facilities are provided to stimulate greater research productivity.[3]

Following the statement of each principle, a number of specific implications were listed, and space provided for faculty members to add others or to comment on the principle involved. By suggesting local applications of each principle, the committee hoped to provoke thorough discussion and to set the stage for whatever action should be taken to implement a given policy. To illustrate how this was done, the section following Principle E is reproduced below.

Principle E. The university faculty member is, first and foremost, a scholar in his field. A distinctive "mark" of his membership in the university community is his strong interest and commitment to research.

Some Implications:

1. He should know his own competence as a scholar, and not attempt to undertake or direct studies for which he is not fully qualified. This competence should include reasonable familiarity with the actual problems or operations in education to which his research relates.

2. He should know and be prepared to evaluate research and scholarly thinking in his field.

3. He should define for himself and with administrative superiors his areas of special interest, competence, and responsibility, and work out a day-to-day schedule that reflects his dedication to study, research, and other creative activities.

4. He should participate "as a student" in activities likely to strengthen and extend his scholarship, e.g.: (a) taking leaves for advanced study and research, (b) attending and participating in research colloquiums, and (c) attending meetings of research-oriented professional groups.

5. He should plan for continuity in his research endeavors, so that the studies he makes over a period of years help to advance knowledge on some particular topic or problem.

6. He should expect that importance will be attached to productive research and scholarship in evaluating his contributions to the College.

[3] Copies of the complete statement are available on request.

Action Stimulated by the Study

The lively discussions which this document evoked, both in regular meetings and in general campus conversations, have helped to put a dramatic spotlight on the importance of research in a university school of education. Many faculty members have also observed that they were challenged to review their own activities and to establish clearer priorities regarding the use of their time. Some departments have also taken action to strengthen their seminars and to give greater prominence to research methods and findings in their regular classes. Similarly, the staff of the Bureau of Educational Research has launched a research newsletter, aimed at promoting better communication regarding the College's expanding research program and at sharing productive ideas from studies elsewhere. The dean's office has likewise

strengthened its efforts to adjust teaching loads and to make other assistance available to faculty members undertaking significant research. In order to obtain a full-orbed view of faculty services in a university school of education, committees have also been recently appointed to develop parallel statements for the areas of teaching and public service.

Considered as a whole, this project has helped to sharpen the College's objectives in the field of research, to strengthen the operations currently undertaken, and to increase faculty members' pride in belonging to a distinguished academic community. Such a vigorous renaissance in the study of educational problems nationally should immeasurably strengthen and improve the programs offered in all levels and types of schools.

Report of Committee on Interstate Recognition of Teachers' Certificates

A meeting of the committee, appointed . . . at Atlanta, . . . to consider the "interstate recognition of high-grade teachers' certificates," and to report at the next meeting, was held in the Palmer House, Chicago, Illinois. . . .

The chairman presented the results of his correspondence with the educational departments of the different states. From the letters read it appeared that, while many of the certificating authorities were in favor of a limited recognition of certificates from other states, they had no legal authority, under present statutes, for such action.

After much informal discussion, it was unanimously decided to recommend:

1. That such legislation be secured as will authorize state departments of education to endorse and validate state certificates of high grade issued by departments of education in other states.

2. That a certificate be so recognized which has been issued under the direction of the state department upon the following conditions:

On examination in reading; orthography; penmanship; arithmetic; grammar; composition; political and commercial geography; United States history; civics; physiology; elementary algebra; physical geography; scientific agriculture; literature; pedagogy (including principles of method, management, psychology, and history of education); any two of ancient history, medieval and modern history, English history, advanced American history; any one of botany, zoology, geology; and one of physics, chemistry, astronomy; either geometry or advanced algebra; and any one of rhetoric and advanced English literature, Latin, Greek, German, or French.

In addition to the foregoing, an applicant for such certificate shall pass an examination in some academic or professional subject in which he has specialized, and one other allied subject, the two taken together being an equivalent of the last two years of undergraduate work in the chosen subjects in a college of high rank.

. . . a diploma from any approved college having a course of study in which at least four years' work above an approved four-year high-school course is required, may be accepted in lieu of an examination in the subjects named, if the applicant has in his college course pursued pedagogical studies for at least two years. In case the holder of such diploma has not taken the required work in pedagogy, the deficiency may be made good by examination.

. . . a diploma from any state normal school having a course of study in which at least two years' work above an approved four-year high-school course is required may be accepted in lieu of an examination in the subjects named.

Those who apply for such certificate by examination shall submit evidence of at least forty months' successful experience in teaching. Applicants who present diplomas shall after graduation teach for at least two years on a provisional certificate before being entitled to the permanent certificate.—NEA, JOURNAL OF PROCEEDINGS AND ADDRESSES OF THE FORTY-FOURTH ANNUAL MEETING HELD AT ASBURY PARK AND OCEAN GROVE, NEW JERSEY, JULY 3-7, *1905, p. 24041.*

Cyril J. Hoyt
Walter W. Cook

The Stability of MTAI Scores During Two to Seven Years of Teaching

MODERN education's concern with the personality development of pupils has intensified interest in the study of the dependence of this educational goal upon certain aspects of the teacher's personality. Observations indicate that desired development of pupils depends on certain personality attributes of teachers. Years of speculation, cosnsideration, and research on teacher-pupil relations have resulted in various interpretations of this dependence which have been accompanied by various emphases in teacher education, teacher selection, and in instructional practice. The task of defining and isolating the contributing factors in this complex of relationships is not a simple one.

The *Minnesota Teacher Attitude Inventory*[1] has provided one of the basic instruments for the measurement and study of this complex of relationships between pupils and teachers. Concurrent validity studies[2] have shown a positive correlation coefficient of .60 between inservice teachers' *MTAI* scores and the combined criteria of pupils', principals', and experts' ratings of teachers. A recent study[3] of predictive validity has shown that the preservice college junior *MTAI* score correlated .38 with class average score on a 50-item pupil-response form entitled "How I like School." These were intermediate grade-level classes of 28 men and 39 women in their second to sixth year of inservice teaching. This is approximately equivalent to the correlations reported in Leeds' two validity studies[4] in which he obtained correlations of .45 and .31 between pupils' rating and teachers' concurrent *MTAI* scores.

Longitudinal studies[5] of the predictive power of the *MTAI* reported the inservice teacher scores collected in 1953 and 1955 along with the preservice scores

[1] Walter W. Cook, Carroll H. Leeds, and Robert Callis, *Minnesota Teacher Attitude Inventory* (New York: The Psychological Corporation, 1951).

[2] Carroll H. Leeds, "A Second Validity Study of the *Minnesota Teacher Attitude Inventory*," *Elementary School Journal* 52:398-405; March 1952; "A Scale for Measuring Teacher-Pupil Attitudes and Teacher-Pupil Rapport," *Psychological Monographs* 64, No. 312; 1950.

[3] Cyril J. Hoyt and Walter W. Cook, "The Predictive Validity of the *MTAI* Based on Pupil Attitude Toward School," *Journal of Teacher Education* 10:42-44; March 1959.

[4] *Op. cit.*

[5] Walter W. Cook, Cyril J. Hoyt, and Alf Eikaas, "Studies of Predictive Validity of the *MTAI*," *Journal of Teacher Education* 7:167-72; June 1956.

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This study was made possible by a grant from the research funds of the Graduate School of the University of Minnesota. The analyses were supervised in the Bureau of Educational Research by Frank Baker, John Bowers, Alf Eikaas, Hal Mitche, Joyce Sorensen, and Dorolese Wardwell.

of the same individuals. The current paper reports two extensions of this earlier paper. A second inservice *MTAI* score was obtained in the spring of 1957 from 70 per cent of the individuals in the 1953 and 1955 studies. Also, an initial inservice *MTAI* Score was obtained in the spring of 1957 for 55 per cent of the College of Education graduates of 1954 and 1955.

The data collected in 1957 and those reported in 1956[6] do not show marked differences in the correlations between *MTAI* scores obtained at corresponding times in the professional careers of teachers. Table I gives the sample estimates of the several correlation coefficients obtained in the two studies. The corresponding correlations for the two studies are in agreement with the exception of that between the junior and senior scores for the students in the secondary-education curriculum. Since the data for the 1957 study are more extensive and separated into the two component groups, academic and non-academic, the 1957 estimates seem more acceptable for describing the relation between junior and senior scores on the *MTAI* for students in preparation for secondary-school teaching positions.

The correlations reported in the last three lines of Table I were obtained from data on those graduates who responded to the *MTAI* twice after engaging in regular teaching duties. Since the responses were received in 1957 from only 70 per cent of those graduates prior to 1954 for whom the undergraduate data were complete, the mean junior-level *MTAI* for the respondents was compared with the corresponding mean of the non-respondents. Tests of the significance of the differences between the junior-year *MTAI* means of respondents versus those of non-respondents indicated that the 70 per cent who responded were not biased samples of the eligible graduates (according to this criterion) with the exception of the secondary academic sample. In this latter case the junior-year mean of the respondent group, though very near the norm median, was higher than the mean of the non-respondents.

[6] *Ibid.*

TABLE I
CORRELATIONS BETWEEN PRESERVICE AND INSERVICE MINNESOTA TEACHER ATTITUDE INVENTORY SCORES OF UNIVERSITY OF MINNESOTA GRADUATES CLASSIFIED BY CURRICULUM AND TESTING DATA

	1956 Testing		*1957 Testing*	
	n	*r*	*n*	*r*
Junior vs. Second- or Third-Year Inservice				
NKP[a] and Elementary Curriculum	163	.45	293	.46
Secondary Academic Curriculum and			153	.40
Secondary Non-Academic Curriculum	187	.43	285	.38
Senior vs. Second- or Third-Year Inservice				
NKP and Elementary Curriculum	144	.52	214	.49
Secondary Academic Curriculum and			69	.65
Secondary Non-Academic Curriculum	64	.60	98	.73
Junior vs. Senior				
NKP and Elementary Curriculum	144	.43	214	.52
Secondary Academic Curriculum and			69	.47
Secondary Non-Academic Curriculum	64	.70	98	.52
Second or Third vs. Fourth to Seventh Inservice				
NKP and Elementary Curriculum			135	.69
Secondary Academic Curriculum and			68	.55
Secondary Non-Academic Curriculum			93	.75

[a] NKP—Nursery, Kindergarten and Primary.

TABLE II
UNDERGRADUATE AND INSERVICE MINNESOTA TEACHER ATTITUDE INVENTORY MEANS OF GRADUATES OF 1947–1953 RESPONDING IN 1957 CLASSIFIED BY UNDERGRADUATE CURRICULUM AND 1957 TEACHING STATUS

1957 Teaching Status	*N*	*Junior Mean*	*Senior Mean*	*2-3 Yr. Mean*	*4-7 Yr. Mean*
NKP Currently Teaching	23	57.1	81.4	69.2	62.5
NKP Discontinued Teaching	38	61.4	78.9	69.4	60.6
Elementary Currently Teaching	47	61.2	82.0	73.5	69.0
Elementary Discontinued Teaching	27	61.2	76.2	54.4	54.9
Secondary Academic Currently Teaching	39	66.6		55.9	46.2
Secondary Academic Discontinued Teaching	29	74.4		52.2	41.8
Secondary Non-Academic Currently Teaching	61	61.2		43.7	39.1
Secondary Non-Academic Discontinued Teaching	32	44.3		28.5	27.1

Table II shows the mean *MTAI* scores for the eight sub-samples of the graduates prior to 1954, classified according to their curriculum and their 1957 teaching status. Tests of the significance of the differences between the junior-year means of those remaining in the profession versus those who discontinued teaching indicated a lack of significance in every curriculum strata except the secondary non-academic stratum.

It might be well to mention here that the trends in these scores as shown in Tables I and II are typical of what has been found in the administration of the *MTAI* over the past 12 years. At the beginning of the junior year students preparing to be elementary-school teachers typically score 60. During the junior and senior years, when they take courses in education, attitudes change, and the typical score upon graduation is 80, a gain of 20 points. After one or two years of teaching, the typical score drops back to 60. One might consider the attitudes developed in courses in education as academic attitudes in that they tend to disappear when the teacher faces the reality of dealing with pupils. The teachers revert to the attitudes which have been developed throughout their lifetime through their experiences at home, at school, and in other social groups.

Students preparing for high-school teaching at the beginning of their junior year typically score 45. Upon graduation the typical score is 65, but after one or two years of teaching the score reverts to one closely approximating the 45 made as beginning juniors.

Elementary-school teachers, in general, tend not to revert to their junior scores to the same extent as secondary-school teachers. Some teachers continue to gain with experience. A warm, friendly response from children has a desirable effect on attitudes. A cold, negative, hostile response from children has a deteriorating effect. There is evidence which indicates that the junior score is a better predictor of the ultimate attitudes of the experienced teacher than is the senior score.

Figures 1 and 2 present graphically the means of the eight sub-samples reported in Table II. Since the means connected by each type of line in these figures are based on the same people, these lines represent changes in mean scores for the groups concerned. Though the time scale on the horizontal axis is not precisely uniform for every individual, the retest scores were obtained at relatively similar periods in the teaching careers of the respondents.

Table III shows the mean scores for the graduates of 1954 and 1955 who responded to the *MTAI* as college juniors and seniors as well as during the spring of 1957. Though only 55 per cent of the group eligible responded in 1957, the junior-year mean *MTAI* score for the

TABLE III
UNDERGRADUATE AND INSERVICE MINNESOTA TEACHER ATTITUDE INVENTORY MEANS OF 1954–1955 GRADUATES RESPONDING IN 1957 CLASSIFIED BY CURRICULUM AND 1957 TEACHING STATUS

Teaching Status	*N*	*Junior Mean*	*Senior Mean*	*1957 Second–Third Yr. Mean*
NKP Currently Teaching	25	40.6	78.1	61.7
NKP Discontinued Teaching	7	61.7	81.4	60.6
Elementary Currently Teaching	47	56.9	80.2	64.7
Elementary Discontinued Teaching	11	57.6	84.5	64.1
Secondary Academic Currently Teaching	40	51.3	70.1	44.4
Secondary Academic Discontinued Teaching	13	51.2	75.1	61.4
Secondary Non-Academic Currently Teaching	76	40.8	69.5	45.1
Secondary Non-Academic Discontinued Teaching	11	59.7	61.8	43.5

responding groups did not differ sufficiently from those of the nonrespondents to signify differences in the means of the populations from which the groups were drawn. If the means for these groups would be inserted in Figures 1 and 2 they would not indicate material discrepancies from those currently in these figures. Thus the data on 1954 and 1955 graduates are consistent with the data reported earlier.

In studying the ability of preservice *MTAI* scores to predict the inservice *MTAI* scores, it seemed appropriate to consider the data in two major groups, both of which are composed of two subgroups. The major groups are elementary-school teachers and secondary-school teachers. The former is composed of a subgroup working in the pre-school and early elementary-school levels (i.e., nursery, kindergarten, and primary) while the other subgroup consists of teachers in grades one to six. The second major group, secondary-school teachers, consists of a subgroup teaching the academic subjects and a subgroup teaching non-academic subjects.

The first and fourth lines of Table I indicate that the junior and senior preservice scores have predictive coefficients of .45 and .50 respectively for elementary-school teachers' inservice scores obtained in the second or third year of teaching. The use of both preservice scores in a multiple prediction equation did not give materially higher multiple correlations for the 1954-55 graduates in elementary education.

A second inservice *MTAI* score was obtained from 135 graduates four to seven years after graduation. The tenth line of Table I gives the correlation between the two inservice scores as .69 for the combined group. This correlation and those reported below were obtained by using within the groups sums of squares and products so that heterogeneity in the means of the subgroups did not artificially magnify the correlation coeffcients. When both preservice scores taken at the junior and senior level were used as predictors of the inservice *MTAI* score earned in the fourth to seventh year after graduation, the multiple correlation was found to be .53 for these 135 elementary-education graduates. This is approximately equivalent in size to the values (.52 and .49) shown in the fourth line of Table I to describe the correlation between the senior and the inservice score obtained in the second or third year after graduation.[7] Thus, either inservice score was predicted from preservice scores with about the same degree of precision.

[7] The 1956 paper reported a correlation of .59 for elementary-school teachers at corresponding periods but line 4 of Table I indicates that .50 is a more appropriate estimate of the correlation between the senior and the first inservice *MTAI* score.

Line 2 of Table I shows the correlation of .43 between the junior *MTAI* score and an inservice *MTAI* score earned in the second or third year after graduation for teachers in secondary schools. Lines 2 and 3 show correlations of .40 and .38 for the 1957 data which were classified in two subgroups, teachers of academic and non-academic subjects. The difference in mean *MTAI* scores for these two subgroups indicated that the separate estimates shown in Table I are preferable. Lines 5 and 6 of Table I give considerably higher correlations of .65 and .73 for indicating the power of the senior *MTAI* scores for predicting the first inservice score made by secondary-school teachers of academic and non-academic subjects. Thus, it has been found that for secondary-school teachers the senior *MTAI* score has better predictive power than the junior score.

Another extension of this longitudinal study was done by obtaining a second inservice *MTAI* score for four samples of the 1947-53 graduates of the secondary-school curriculums. The last two lines of Table I show the correlations between the two inservice *MTAI* scores for these groups to be .55 and .75. Though the mean scores for these inservice teachers drop slightly, the earlier scores have the predictive power for later scores indicated by these correlation coefficients.

Former longitudinal studies[8] of the predictive validity of the *MTAI* have shown that college students' scores have product moment correlations of approximately .60 with scores earned by these same people two or three years after graduation. Though recent data indicate this figure is substantially correct, the data collected in 1957 on graduates of 1954 and 1955 indicated that .50 may be a better estimate for elementary-school teachers and .65 for secondary-school teachers. When a second inservice *MTAI* score was obtained from graduates four to seven years after graduation it was found that this score could be predicted by the first inservice score or a combination of the latter and preservice scores with a correlation of approximately .70.

These studies show a degree of consistency in the *MTAI* scores of graduates of one teacher education college which indicates the value of scores obtained in college for predicting inservice scores after up to seven years of teaching, and also of inservice scores after two to three years of teaching, for predicting probable scores after several years of additional teaching experience.

Since teachers' *MTAI* scores are not in themselves a criterion of classroom effectiveness, it is necessary to consider along with these predictive coefficients the concurrent validity coefficient of .60 between teachers' *MTAI* scores and a combination of ratings by administrators, expert raters, and pupils.

[8] Cook, Hoyt, and Eikaas, *op. cit.*

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W. R. Fulton

Audio-Visual Competence and Teacher Preparation

THE preparation of more and better qualified teachers includes preparing teachers not only to teach more concepts, but to teach them more effectively. Moreover, these teachers must be prepared to manage classes with greatly increased enrollments and to teach in an environment that is beset with many external influences, some of which might be made useful to education. One of the most important of these influences is the wide use of communicative media by noneducational agencies. The effectiveness of such media in communicating ideas is indicated by their continued and expanded use by industry and other agencies outside of education. How, then, can they be converted to improve communication in the formalized educational process? Obviously, this is a responsibility of teacher education institutions in their preparation of teachers.

The preparation of teachers to teach more concepts effectively within a culture that has become as complex as ours requires the development of many competences, among which are those relating to communicative media, more commonly called audio-visual materials. Unfortunately, the development of audio-visual competence is too frequently overlooked or is given too little attention in teacher education programs.

Yet it is evident that the methods and materials of yesterday are as inadequate for present and future needs in education as they would be in science and industry. This is not to suggest that communicative media and techniques by themselves are panaceas. But it is clear that the job cannot be done without them.

Although today's communicative media and techniques are in some cases different from those of yesterday, the advocacy of their use is not new. Long before teacher education institutions began including preparation in the use of such media, under the term audio-visual education, educators were aware of their value. Much in the writings of Comenius, Pestalozzi, Rousseau, and Froebel would, if read today, sound similar to the most authoritative textbooks in audio-visual education.

More recently, attempts have been made to stimulate teacher preparation in the use of instructional materials through legislation, revision of college curriculums, and a variety of inservice devices. In 1934 the commonwealth of Pennsylvania enacted legislation requiring all applicants for a permanent teaching certificate to have "an approved course in visual and sensory techniques." California has had a similar requirement since 1946. At about this time the American Council on Education further stimulated attention to audio-visual education by publishing a statement on its meaning that spelled out teacher competences in this area.[1] Since that time a number of teacher education institutions have required an audio-visual course for

[1] Elizabeth Goudy Noel and J. Paul Leonard, *Foundations for Teacher Education in Audio-Visual Instruction* (Washington, D. C.: American Council on Education, 1947) p. 1-3.

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graduation. Today nearly every audio-visual center in the country is actively engaged in some kind of audio-visual inservice activity.

Despite such efforts as these, the rather conclusive body of research produced over the last 40 years pointing to the values derived from the proper use of the audio-visual materials, and our knowledge of the audio-visual competences teachers should possess, many teachers today are not very well prepared to take advantage of audio-visual devices and materials that are generally available to them. A survey made by the National Education Association in 1957 showed that about 50 per cent of the 5,602 American teachers returning their questionnaire did not feel confident in their ability to use audio-visual equipment and materials.[2] A University of Wisconsin study reports that a great proportion of the secondary-school teachers questioned did not know what a filmstrip projector was, and that many teachers who used audio-visual materials felt they had not been prepared to use them effectively.[3]

Such data should stimulate a greater concern among those responsible for teacher education programs for more systematic efforts in providing opportunities for preservice teachers to develop competence in the use of audio-visual materials. During the last few years teacher education institutions and professional organizations, particularly the NEA's National Commission on Teacher Education and Professional Standards, have given much attention to the identification of competences needed by teachers. A perusal of most lists of teacher competences reveals that specific competences in the area of methods and materials are seldom mentioned. More recently, however, a rather well-defined list of audio-visual competences was formulated by the Teacher Education Committee of the Department of Audio-Visual Instruction, NEA.[4]

This list contains such general areas of competence as (1) proficiency in selection and evaluation of materials; (2) proficiency in the utilization of appropriate instructional materials; (3) proficiency in production of simple instructional materials; and (4) proficiency in the preparation and use of physical facilities.

Assuming that the audio-visual competences included in the above list are valid and necessary for effective teaching, the crucial issue is how the present teacher education program can be adjusted to insure optimum opportunities for preservice teachers to achieve them. A group of audio-visual leaders at the 1958 Okoboji Conference proposed some methods of doing this.[5]

Methods of Achieving Audio-Visual Competence

The most common method of providing opportunities for preservice teachers to achieve audio-visual competence is to *add a course in audio-visual education and require all to take it.* This has been done in a good many institutions with varying degrees of effectiveness. There is some evidence that this method is not the complete answer to the problem because of academic and scheduling difficulties and the difficulty of providing adequate laboratory experience necessary to develop the skills relating to audio-visual competence.

[2] National Education Association, Research Division, "The Status of the American Public-School Teacher," NEA *Research Bulletin* 35:1:30; 1957.

[3] Frederick A. White, *One Study of the University of Wisconsin's School of Education Progress in Providing Competency in Selecting Audio-Visual Methods* (Unpublished Ph.D. Thesis, School of Education, University of Wisconsin, 1952).

[4] W. R. Fulton and Frederick A. White, "What Constitutes Teacher Competence in Audio-Visual Communication?" *Phi Delta Kappan* 40:158-60; January 1959.

[5] "The Okoboji Report," *Audio-Visual Instruction* 4:4-6; January 1959.

Another way of providing for the achievement of audio-visual competence is to *integrate audio-visual methods and materials with the traditional methods courses and other professional education courses.* Theoretically, this is a realistic approach and one which should reach all prospective teachers. It provides real opportunity for the prospective teacher to make meaningful use of audio-visual materials in connection with laboratory assignments relating to methods and subject matter. It has serious limitations, however. Often there is too little time to cover all competences. Some who teach these courses lack audio-visual competence themselves. Such a plan normally works best with a team approach and this is not always practical at the college level.

A third way of providing opportunities for preservice teachers to achieve audio-visual competence is through a strictly *laboratory approach.* This requires that all students devote sufficient time in the audio-visual laboratory to complete projects designed to produce competences applicable to their needs. The success of this approach is contingent upon acceptance and participation by the entire faculty, the requirement that all students complete the program, the services of professionally qualified laboratory assistants, and a systematic method of evaluating the student's accomplishments.

Because of the complexity of problems associated with developing audio-visual competences, many of which are closely related to other teacher competences, and because of the existence of a variety of local problems stemming from the different patterns of teacher education, it seems apparent that teacher education institutions, particularly those that are multi-purpose, should embark upon an intensive program designed to develop in every prospective teacher adequate audio-visual competence. Such a program might employ a combination of three or four methods: (1) the completion of a formal audio-visual course; (2) project participation in methods courses combined with laboratory assignments; (3) experience in an audio-visual laboratory with appropriate space, materials, equipment, and adequate personnel; and (4) liberal use of appropriate materials by teachers of the professional courses in their day-to-day instruction. Much use of students should be made in the latter, both in selection and utilization practices, and in the operation of projection equipment.

Regardless of the manner in which an institution provides audio-visual learning opportunities, the student should be able to demonstrate proficiency in each audio-visual competence. This means that both the faculty and the students must clearly understand the precise competences to be demonstrated. Such a program would presume a requirement that all students present a certificate of audio-visual proficiency to the director of student teaching before being admitted to student teaching or before being granted a teaching certificate.

Determining Audio-Visual Competence

The determination of such competence should be made by the professor and staff in charge of the audio-visual laboratory from an approved list of audio-visual competences including (1) a working point of view with respect to audio-visual materials; (2) knowledge about and experience in locating, selecting, evaluating, and using all kinds of audio-visual materials; (3) ability to prepare some of the simpler types of audio-visual materials; and (4) skill in the operation of common types of audio-visual equipment.

Students should be made aware of the specific competences they are expected to demonstrate and the tasks they should perform in achieving them. They should

also be familiar with opportunities available to them for their achievement.

At best, information for determining audio-visual competence is highly subjective. Nevertheless, it is paramount that competence in each area be evaluated. Due to the diversity of programs among institutions, it is necessary to develop evaluative instruments to fit the local situation in order that competence in each area may be evaluated. The following is a suggested guide for doing this.

Competence in the *selection and evaluation of materials,* requires that the prospective teacher possess a working point of view regarding audio-visual materials by acquiring a knowledge about all types of mass-communication media and by developing skills in locating, selecting, and evaluating such media.

Some ways of obtaining information which may be useful in determining whether students have developed this competence are as follows:

1. Have students match pictures of all types of audio-visual equipment and materials with a list of names of such media.

2. Have students match names of materials with a list of characteristics peculiar to certain types of materials.

3. Have students match pictures of materials with a list of purposes to be achieved.

4. Have students answer multiple-choice items relating to problems to which certain materials are suitable.

5. Have students answer problem-solving questions relating to selection of specific materials for stated purposes.

6. Have students answer problem-solving questions relating to the use of the most appropriate materials for stated purposes.

7. Have students answer multiple-choice items relating to the evaluation of appropriate materials in terms of stated purposes.

8. Describe a problem and have students suggest the most appropriate material to achieve stated purposes.

9. Have students answer problem-solving questions about location of film libraries and other materials that may be located inside or outside the school system. (This method may also be used to determine whether the students have knowledge of procedures for obtaining materials from various sources.)

In determining whether prospective teachers have attained *proficiency in the utilization of appropriate instructional materials,* the evaluator should recognize that the teacher should have a functional knowledge of techniques of utilization of all types of educational media, and that this might be facilitated through an understanding of the basic philosophy underlying the successful use of educational media; an understanding of the role of methods and materials in the instructional process; and an appreciation of the advantages of a wide range of instructional materials.

Some methods of obtaining information for evaluating the student's competence in this area are:

1. Have students view and write a review with emphasis on the role of materials in learning of such films as *Accent on Learning, Bringing the World Into the Classroom, New Tools for Learning,* and *Film Research in Learning.*

2. Have students answer multiple-choice items relating to values derived from correct use of films in terms of purposes for which films are suited.

3. Have students list the principal steps for good use of a motion picture film for stated purposes.

4. Have students view and write a review of such films as *Using the Classroom Film* and *Chalkboard Utilization.*

5. Have students develop a unit of work which includes the use of such aids and materials as films, chalkboard devices, feltboard materials, bulletin-board materials, 3-D materials, and the field trip.

In determining whether prospective teachers are *proficient in the production* of simple instructional materials, the student should be required to demonstrate an ability to prepare some of the simpler types of audio-visual materials.

One way of obtaining information on which to determine the student's competence in this area is to administer a performance test in which the student demonstrates knowledge of principles and skill in preparing such items as bulletin-board displays, feltboards, handmade slides, mounted study prints, and tape recordings.

In determining whether prospective teachers possess *proficiency in the preparation and use of physical facilities,* the evaluator should require the student to demonstrate skill in arranging the physical facilities for using audio-visual materials, and to possess the ability to manipulate and arrange audio-visual equipment and materials for classroom use. Again, a desirable way of obtaining information for the evaluation of this competence is to use performance tests in which the student demonstrates a knowledge of, and skill in placement of, screen, speaker, and seats for optimum viewing and hearing; tests in which the student demonstrates ability to operate such equipment as the motion-picture projector, filmstrip projector, slide projector, opaque projector, and tape recorder; and opportunities for the student to demonstrate abilities to construct mock-ups and models.

Another important element necessary for optimum results in developing audio-visual competence is the provision for adequate physical facilities. Films, filmstrips, projection equipment, and other pertinent materials and equipment must be readily available and easily obtainable. Also, adequate classroom projection facilities and laboratory space and equipment must be readily available.

Research evidence indicates that we know much more about what we should be doing with modern communicative media in education than we are actually doing. It is also very likely that one of the principal reasons for this is that teachers are not well enough prepared to feel secure in the use of appropriate media. Obviously, if we are to do what we should, teachers must be more adequately prepared.

The manner in which this is done, whether it is through a well designed audio-visual course, through integration of audio-visual materials with traditional methods courses, through a carefully planned laboratory approach, or through a combination of these, is relatively unimportant if adequate student evaluation is made. A well-planned, comprehensive program for evaluating the extent to which prospective teachers have achieved competence in the use of communicative media will greatly enhance their chances of achieving such competence.

Such a plan should be equally shared by both faculty and students. Each faculty member should be continuously aware of the needs of the student to the extent that ample opportunities are provided in each course for each student to learn about and make use of communicative media. Also, each student should be continuously aware of the competences he must achieve and thus be stimulated to achieve them, even if it means going beyond formalized opportunities.

Although such a program has its administrative difficulties, it is administratively and economically feasible. The urgency for preparing teachers to make the fullest use of modern communicative media makes it incumbent upon all teacher education institutions to formulate a systematic and comprehensive program of developing teacher competence in the use of such media.

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Professional Laboratory Experiences in Oklahoma

RECOGNIZING the importance of professional laboratory experiences in teacher education programs, the Oklahoma Commission on Teacher Education and Certification requested that a survey be conducted concerning these experiences in teacher education programs in the state of Oklahoma. Accordingly, in 1959 an appointed committee[1] surveyed 17 institutions offering teacher education programs. The report of the survey, which includes data on the 14 institutions who responded, is now in the hands of the Commission.

Two major areas concerning professional laboratory experiences were investigated. The first section of the survey instrument elicited information about pre-student-teaching laboratory experiences, and the second section was designed to discover provisions for student-teaching programs themselves. The instrument relied heavily upon concepts developed under the direction of Dr. Thomas D. Horn in *A High Quality Student-Teaching Program,* used as a basis for discussion in the regional conferences of the TEPS Commission held in 1958.

This report summarizes results of the survey and includes pertinent supporting data. A second report, dealing with recommendations for establishing standards for professional laboratory experiences in Oklahoma, is forthcoming.

Provisions for Professional Laboratory Experiences Other Than Student Teaching

Philosophy and Purposes of Pre-Student-Teaching Experiences

For the most part the 14 institutions indicated that the major purposes were: (1) observations of theory in practice and classroom procedure, (2) understanding of child growth and development, and (3) development of broad understanding of the total school situation.

There was no agreement among the institutions relative to the requirement for a certain number of hours of *observation,* for they ranged from 6 to 32 hours, and more than half of the institutions reported that the requirement was in-

[1] The committee which was engaged in the evaluation phase of the investigation at the time this paper was written was composed of Chester S. Williams, chairman; Dr. James May, principal of Holmes Elementary School, Tulsa; Mrs. Helen M. Jones, supervisor of secondary education, Oklahoma City Public Schools; Dr. O. D. Johns, director of projects and University School, University of Oklahoma; Mrs. Virginia Marsden, associate professor of education, Oklahoma State University; and Dr. L. Marshall Nagle, Jr., associate professor of education, Southeastern State College, Durant.

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definite. However, about half of the respondents indicated that the faculty favored a requirement of a certain number of hours of participation prior to admission to student teaching.

On the other hand, there was no apparent agreement relative to staff decisions in regard to participation being more important than observation. Approximately one-third of the respondents indicated that observations should precede participation, but that both are equally important. One-third also stated that participation should be stressed over observations, the remainder indicating that no decision had been made.

Administration of Pre-Student-Teaching Professional Laboratory Experiences

The institutions were asked how their programs of professional laboratory experiences other than student teaching were administered. In most instances the director of student teaching is not responsible for other professional laboratory experiences. The responsibility for supervision of these experiences is met in a number of ways, by: (1) the college staff, (2) the public-school staff, and (3) co-operation of the two staffs. In two institutions no supervision is provided.

The teaching load of college personnel includes the responsibility for co-ordinating the work of the college with those agencies providing the laboratory experiences. It is adjusted in 50 per cent of the institutions, whereas this is not the case with the other half. No remuneration is provided public-school personnel in 10 of the 14 programs, the same response being indicated as applying to non-school personnel.

The important consideration of contractual agreements between college and non-school agencies was included in this survey. It was discovered that a majority of the respondents had neither written nor verbal contractual agreements with the public-school agencies or with non-school agencies. In fact, only three institutions indicated that written agreements exist with co-operating agencies.

Student records in professional laboratory experiences other than student teaching were found to be located in college institutional records in 50 per cent of the cases and also in cumulative record folders of the students in 25 per cent of the cases.

The criteria used in selecting students for participation in these laboratory experiences are (1) admission to the teacher education program and (2) enrollment in certain courses. Several of the respondents indicated that criteria are indefinite or that none exist. Indeed, in most of the institutions, there is no definite number of clock hours of professional laboratory experiences required prior to the student's being admitted to student teaching, although three institutions indicated that this is a requirement. In two of these programs the requirements are 30 hours in both the elementary and secondary areas, the third institution indicating 32 hours for elementary-school teachers and 15 for secondary-school teachers.

Twelve of the 14 institutions provide school and community professional laboratory experiences prior to student teaching; thus, in two institutions it was not felt to be significant by the staff and not feasible in view of staff teaching loads.

The integration of participation and observation varies among college teachers and among institutions in most cases. The emphasis given to participation varies considerably among teachers as well as institutions, ranging from no emphasis to strong emphasis. Accordingly, most institutions have flexible schedules. If it is indicated that students are not properly profiting from observational assignments, they are reassigned, the need for new assignments being determined in conferences with students.

Subject Areas and Courses Requiring Pre-Student-Teaching Laboratory Experiences

Institutions were asked at what point (s) in the program and in which classes or subject areas the professional laboratory experiences occur. One-half of the respondents stated that these experiences occur in the third and the fourth years; the others pointed out that they range from the second to the fourth. Psychology, including the area of child development, was the field in which professional laboratory experiences other than student teaching are stressed; other courses are (1) elementary methods, (2) general methods, and (3) subject-matter courses. The purpose of these experiences, as relating to the specific courses, is to develop an increased understanding of child development and of the problems of teaching.

With the exception of one institution, students are required to keep records of their professional laboratory experiences.

Selection of Co-operating Schools and Teaching and Administrative Personnel

Schools are selected for observation and limited participation primarily on the basis of (1) accessibility to the institution; (2) adequacy of the total school program; (3) professional interest in teacher education; (4) the adequacy of financial support given the school program; and (5) in accordance with the general accreditation criteria established by the North Central Association of Colleges and Secondary Schools. Informal agreements are reached with the public schools for the provision of pre-student-teaching laboratory experiences; in only two instances are contracts negotiated.

Provisions for Student Teaching

Classroom Instruction and Extra-Class Activities

The respondents indicated that the range of responsibilities in classroom instruction which are part of the student teacher's experiences are co-operatively planned by (1) the supervising teacher, (2) the student-teaching co-ordinator, and (3) the student teacher. In about half of the cases the student's advisor also participates in the planning group.

There is very limited opportunity for extra-class activities as reported by two of the 14 institutions. However, the experiences in extra-class activities are also co-operatively planned wherever they are in evidence.

Student teachers are participants in faculty meetings, in most instances, but only on a limited basis; they do not work on teacher committees for curriculum improvement, etc., except in a few cases.

Experiences in guidance and counseling activities are provided by nine of the institutions. The reporting institutions, indicating the extent to which student teachers work with subject-matter specialists, replied that most of this work is done in speech, reading, guidance, health, and music. In three-fourths of the institutions student teachers are provided opportunities for parental contact, particularly in parent-teacher associations. Some respondents indicated that student teachers identify themselves with the community by participating directly in certain community activities, whereas others indicated that this is not possible because student teachers commute or are on the half-day all-semester plan.

Student teachers are provided with a variety of situations involving the teaching-learning process which give them opportunities to see behavioral changes in pupils.

Student-Teacher Experiences Providing for the Assumption of Teaching Responsibilities

The student teachers' growth is reportedly carefully guided by the co-operating teacher, who is assisted by the college supervisor and the principal of the co-operating school.

Co-operating personnel are selected for the following reasons: (1) willingness of the school to participate; (2) quality of school program; (3) approval by public-school administrators; and (4) professional competence of personnel.

A number of non-school agencies, such as the Boy Scouts, Girl Scouts, Campfire Girls, and Sunday schools, are utilized in providing these experiences. Experience in these specific organizations is not required in any instance, however. In five of the reporting institutions community agencies are not used regularly for professional laboratory experiences. The workers in these community agencies are selected primarily as the result of judgments on the part of members of the teacher preparing institutions.

Finally, it was found that reports of students relative to appraising these experiences or evaluating their own growth as a result of them are not required in most institutions.

Twelve of the 14 institutions held the concept that the student teachers' growth and understanding are developed so that they can generalize from their experiences. Seminars are conducted by institutions specifically for this purpose. In five of the teacher-preparing institutions the student teachers learned to evaluate their own competences, usually through the medium of conferences with the co-operating teacher and the college representative. Rating scales are also used during the conferences relative to self-evaluation.

A majority of institutions reported that student teachers learn to assume the responsibilities of a professional person in both the school and community. In four institutions, however, these responsibilities for professional development are limited, although no reasons were indicated. In all cases the school and community environment helps the student teacher to function with confidence, and emphasis is placed upon the student teachers' growth in making value judgments.

It was the opinion of all institutions that student teachers, as a result of the experiences, learn to act with consideration for moral and spiritual values. They also indicated that student teachers grow in sensitivity to human relations through such media as committee work, P.T.A. meetings, conferences, and college courses. One institution even cited reports of success of its graduates as evidences of this growth, but others did not indicate how this is determined.

In regard to the provision of gradual induction and participation toward assumption of the students' responsibility for their assigned experiences, half of the institutions indicated that this practice is well established; the other half maintained that it is present only to some extent. Furthermore, it was emphasized by a few respondents that the extent of this practice depends directly upon the participating school and the supervising teacher.

All responding institutions indicated that the teacher-preparation programs are effective for preparing students for their first responsibilities as public-school teachers. In support of this belief it was indicated that many student teachers are later employed by the co-operating schools. Other respondents pointed to the use of follow-up studies of their graduates, informal contacts, and reports from participating schools as evidence of this fact.

Conditions Essential to the Development and Maintenance of an Effective Program

Administration. Every university and college reporting indicated that its administration supports the belief that quality is of first importance in a student-teaching program. They were also unanimous in underscoring the importance of enabling the student teacher to demonstrate a high level of growth and

learning, involving the development of ability to generalize from his experiences in meeting the responsibilities of a professional teacher.

Finance. Twelve respondents stated that the student-teaching program has the same financial support as other aspects of the teacher-eduction program, but this was not the case with two institutions. In some schools the financial support is sufficiently adequate to pay supervising teachers and to take care of the cost of students' travel. But only one institution indicated that it had sufficient financial support to provide whatever program is necessary for the development of professionally trained teachers.

There is considerable variation in the detailed operation and administration of the prospective student-teaching programs. It is significant to note, however, that (1) secondary students generally do not do their student teaching on an all-day basis for half the semester, although the opposite is true with respect to elementary students; (2) with the exception of one institution, the majority of student teachers are placed in off-campus local public schools; (3) the credit hours allowed for student teaching range from 6 to 9, with the majority of institutions granting 6 hours; and (4) institutions place only one student-teacher at a given time with a co-operating teacher, but in two instances as many as four student teachers may be assigned simultaneously to one co-operating teacher.

Organization. The co-ordination of the total student-teaching program is the responsibility of one person in the majority of cases; in some instances, however, there is a division of responsibility between the elementary and secondary divisions.

The development and operation of the student-teaching program is a co-operative enterprise involving the college and the public school in 11 of the 14 teacher-preparing institutions.

A systematic process of selective admission and retention for the students as they progress through the teacher-education program is evident in 11 of the reporting institutions. An over-all grade-point average, as well as one for specialization and another for professional education and a requisite course, is a common feature. Recommendations from the department head or the professor, or both, who may have been involved in the student's program are also employed in selecting and admitting students.

A co-ordinator from the college or university who is responsible for the student-teaching programs in all cases serves as liaison between the public schools and the college.

Application and Assignment. Certain criteria must be met before students are admitted to the student-teaching program. These include (1) a total number of college hours, (2) specific courses or grade-point average, and (3) recommendation of the department head.

It is apparent that in most instances the student-teaching assignments are developed by the director of student teaching or the co-ordinator of student teaching, or both, in consultation with the co-operating school personnel. Student teachers themselves are also involved in determining specific assignments. The respondents indicated that specific student-teaching assignments are usually made one semester in advance.

Although in eight institutions the length of the student-teaching assignment is based upon the needs of the individual student, six colleges find a flexible scheme of this sort currently too difficult to administer. Nevertheless, the point at which student teaching occurs in the teacher education sequence varies considerably.

Supervison. In all cases the person working directly with the student in the school and community is directly responsible for his guidance and direction

and in the judgment of the institutions is highly skilled in his major area of teaching. In more than half of the institutions all personnel involved in the student-teaching program have written, clearly defined responsibilities and duties. The information is provided in handbooks in most instances. Generally, regular and frequent evaluation of the total student-teaching program is undertaken by all of the persons participating in the program.

College co-ordinators visit the student while he is engaged in student-teaching. Although the number and length of visits vary considerably, the college co-ordinator usually performs similar functions: (1) facilitates communication between the public schools and college personnel; (2) conducts seminars for persons working with student teachers; (3) conducts frequent seminars with student teachers either in the school or on the campus; (4) advises student teachers individually and co-operating teachers as well; (5) confers with the co-operating teachers in determining the student teacher's grade and assumes the responsibility for submitting the final evaluation and grade of the student teacher to the appropriate college authorities.

Slightly more than 50 per cent of the institutions provide co-operating teachers with professional publications in the area of student teaching and other pertinent fields. Whenever this is not the case, insufficient funds was given as the reason. Professional publications provided for student teachers and co-operating teachers were to be found in student-teaching centers in 50 per cent of the institutions which have student-teaching centers.

Two-thirds of the reporting institutions indicated that time is available for co-operating teachers to meet in groups and to study the student-teaching program with college personnel. Although some meetings are held at least once a semester and others monthly, most occur only occasionally because of scheduling difficulties. Transportation to these co-operative meetings is provided in only four cases. Institutions not providing transportation reported either that insufficient funds are not available or that transportation is not a problem.

The following services and means of recognition, in order of frequency, are provided by colleges for co-operating teachers: (1) free use of the college library; (2) commendation from the college; (3) admission to college activities on the same basis as regular faculty members; (4) recognition as members of the college faculty; (5) free use of audio-visual materials; and (6) allowance of credit by the board of education. Other services listed are (7) invitations to college faculty social activities, (8) names placed on college schedules, and (9) free tution for one-half of a co-operating teacher's master's program.

Nature of Co-operating School and Community. All reporting institutions indicated that the philosophy of the co-operating schools is in agreement with that of the teacher-preparing institutions and that definite criteria are used in the determination of the co-operating school.

In regard to the types of communities in which co-operating schools are located, it was found that there is emphasis in the local press on educational services and values rather than on the cost to taxpayers. Fifty per cent of the respondents indicated that school patrons have participated actively and positively with the schools in evaluation and improvement of the educational program and that these school communities have a high level of cultural activity.

Relationships Between Student Teaching and Other Aspects of the Teacher Education Program. Records and accounts relating to pre-student-teaching experiences, student teaching, and post-student-teaching indicated the following conditions exist in the majority of instances:

1. Accounts of pre-student-teaching experiences, with evaluations, are recorded and made available for later use in helping to determine the student's readiness for student teaching.

2. A record of the student teacher's teaching experiences together with anecdotal evaluations, are made available to the student, the advisor, and the director of student teaching.

3. In the matter of reports concerning post-student-teaching experiences, student teachers' advisors (a) participate directly in the student-teaching program by helping to determine the student's readiness, (b) assist in making the assignment, and (c) guide the student during and after his student-teaching assignment. Each reporting institution indicated that personnel directly connected with the student-teaching program cooperatively study it and make specific recommendations for improvement, whenever necessary in the college.

It should be emphasized that co-operating-school personnel also are given the opportunity to become well acquainted with (a) the total program of student teaching and (b) the total educational program, policies, and methodology used in college. It is significant, however, that only one-fifth of the institutions reported that positive programs are being maintained to foster understanding and good working relationships on the part of the personnel of the education department and of other departments in the college. On the other hand, several respondents indicated that departments other than education should be involved in programs of professional laboratory experiences.

Provisions for Continuous Evaluation of the Student-Teaching Program. In regard to the evaluation of the student-teaching program, there was general agreement that (1) evaluation does take place, (2) certain personnel are designated to assume responsibility for the evaluation, and (3) evaluation is usually assumed by those persons working directly in the student-teaching program. Only one-third of the respondents indicated, however, that specific funds are being alloted for the purpose of evaluation, despite the fact that in every instance evaluation functions on an operational basis and in two-thirds of the cases it is actually a co-operative project between college and co-operating school.

Most of the institutions indicated that (1) results of evaluation studies are made available to those persons responsible for and participating in the student-teaching program, (2) that the results are used as a basis for endeavoring to improve the program, and (3) that both the public school and college on the basis of evaluative findings make adjustments designed to improve the student-teaching program.

Involvement of State Departments of Education in Student-Teaching Programs. Thirteen of the reporting institutions indicated that as a matter of principle the state department of education should co-operate in the development of student-teaching programs. They also stated that the department should approve the use of public schools or the laboratory schools for student-teaching programs on the basis of criteria co-operatively developed by college and public-school personnel.

A majority of respondents felt that criteria in the following categories, if developed co-operatively by the state department of education and the institutions, should be used in developing programs: (1) school philosophy; (2) school administration and supervision; (3) the educational program of the schools; (4) financial support of the educational program; (5) community attitudes towards public education; (6) evaluation of the educational program; and (7) leadership in public education.

Despite the fact that most of the reporting institutions thought that the state department should be involved in the development and improvement of student-teaching programs, only 50 per cent held that the department should approve or certificate personnel on the basis of criteria co-operatively developed by the college and public-school personnel. Indeed, several considered it the sole responsibility of the college, although one maintained that additional state certification requirements would be an over-extension in this area, whereas another indicated that such a move would weaken the present state certification program.

If certification criteria were to be adopted, respondents thought that the following aspects should be included: (1) nature and level of preparation; (2) nature, quality, and extent of experience in public education; (3) professional attitudes; and (4) leadership qualities.

Also, when asked if such criteria should also apply to college personnel involved in co-ordinating or supervising student teachers, the respondents indicated the same opinion as demonstrated in previous items regarding criteria. There was almost unanimous agreement, however, that state departments of education should continually participate in the evaluation of student-teaching programs and in formulating recommendations for improvement whenever necessary.

Significant Findings

Some of the more significant findings of this investigation are as follows:

1. Participation as well as observation was held to be essential in pre-student-teaching experiences.

2. No remuneration was reported being provided public-school personnel in a great majority of instances. Various other means of recognition are provided by colleges, however. Non-payment to co-operating teachers but provision for recognition in other ways may be interpreted as a sincere desire on the part of teacher-preparing institutions to recognize the worth of partners in the professional enterprise, while, at the same time, lack of funds for payment reflects the generally low pay scale of college and public-school teachers in the Sooner state.

3. Neither written nor verbal contracts generally exist in Oklahoma between teacher-preparing institutions and public-school systems. This condition undoubtedly exists because crises have not yet occurred which have caused the institutions and public-school systems to formalize their patterns of working relationships. Despite the fact that from the standpoint of the national picture Oklahoma would seem to be at least partially in arrears in this respect, from another it could be said that informal identification of responsibility by both agencies has resulted in generally effective placement and supervision of student teachers.

4. No definite number of clock hours of professional laboratory experiences are required prior to student teaching, although almost all of the institutions provide experiences of this type.

5. Definite criteria are used by all reporting institutions in the selection of co-operating teachers and schools. Accessibility, quality of school program, and community attitude toward education are the major criteria used in selecting co-operating schools and communities. Teachers are selected on the basis of interest in teacher education and professional competences.

6. Expriences involving extra-class activities are very limited, particularly in half-day, all-semester assignments.

7. Only half of the reporting institutions exercise caution in assuring *gradual* induction and assumption of teaching responsibilities.

8. There is unanimous agreement that the teacher-preparation programs are effective in preparing students for their assignments.

9. All college administrations support the belief that the quality of the student-teaching program is of prime importance. However, only one respondent considered that adequate financial support for a high-quality program is being provided by his institution.

10. In almost all instances the development and operation of the student-teaching program is a co-operative enterprise involving the college and the public school.

11. Flexible student-teaching assignments based upon the needs of individuals are thought to be too difficult to administer.

12. In more than half of the institutions all personnel involved in the student-teaching program have written, clearly defined responsibilities and duties.

13. Only 50 per cent of the institutions provide helpful professional materials for supervisory personnel.

14. Two-thirds of the institutions provide time for co-operating teachers and college personnel to meet for the purpose of studying the student-teaching program as well as other aspects of undergraduate teacher education.

15. State departments of education should be involved in the development and evaluation of student-teaching programs. There is a general feeling, however, that state departments should not become involved in the actual certification of college supervisors and co-operating teachers.

Conclusion

It should be emphasized again that the information reported in this study for the most part concerns only practices involving professional laboratory experiences in a single state, Oklahoma, and which were current at the time of the study. Although the survey did not attempt to elicit opinions as to the desired standards for these types of experiences, the data reported by teacher-preparing institutions does provide the essential first step in this direction.

It is evident from the responses reported here that professional laboratory experiences in programs of teacher education are regarded as singularly important areas for research and improvement. Although practices as reported here vary considerably with regard to specific arrangements provided for future teachers to profit from direct experiences with children, respondents indicated concerted widespread interest in the task of synthesizing principles and procedures.

The writers suggest that the value of this type of investigation lies not only in the dissemination and exchange of information regarding promising practices among the teacher-preparatory institutions of a state but in giving impetus to further research and improvement in an area of higher education which until recently has been rather neglected. The same careful attention devoted to student teaching must also be applied to other professional laboratory experiences. Consequently, similar projects by other states might, as part of an extensive research effort, result in the upgrading of such programs.

Support of Public Service

The support of any public service is probably as much a matter of public attitudes as of economic ability.—*John Dale Russell,* HIGHER EDUCATION IN MICHIGAN: THE FINAL REPORT OF THE SURVEY OF HIGHER EDUCATION IN MICHIGAN *(Lansing, Michigan: Michigan Legislative Study Committee on Higher Education, 1958) p. 167.*

H. William Crall
R. Maurice Myers

Recommendations for Master's Degree Preparation for Teachers of Biological Sciences

RECENT widespread discussions concerning the preparation of high-school teachers of biological sciences have received considerable emphasis in curricular planning for the bachelor's degree. Less consideration has been given to graduate preparation, however. Since a master's degree is becoming more important to teachers each year, it seems appropriate to study graduate curricular requirements.

The present curricula for the bachelor's degree in biological sciences may be related to the recent decline in the number of students studying for advanced degrees. Myers and Crall (1959) have pointed out some of the deficiencies in many present undergraduate curricula.[1] Stolberg[2] (1956) and a committee of the National Academy of Sciences—National Research Council[3] (1958) have recommended that scientific preparation beyond the bachelor's degree should be mainly in biological and supporting sciences.

The city of Chicago[4] (1957) has given no specific requirements for a master's degree for a classroom teacher and neither has the North Central Association of Colleges and Secondary Schools[5] (1957-58). The "Guide to the Supervision, Evaluation and Recognition of Illinois Schools" (1958) describes the necessary graduate preparation for administrators, but not for teachers.[6] In

[1] R. Maurice Myers and H. William Crall, "How Can the Curricula for Biological Sciences Teachers Be Improved?" *Science Education* 43:147-52; March 1959.

[2] R. Stolberg, "Some Observations Concerning the Education of the Science Teacher," San Francisco State College, 1956. (Dittoed.)

[3] Committee on Education Policies of the Division of Biology and Agriculture, National Academy of Sciences—National Research Council, *Recommendations of the Conference on Undergraduate Curricula in the Biological Sciences on Curricula for Prospective Secondary-School Biology Teachers* (Washington, D. C.: the Council, 1958) 86 p.

[4] Chicago Board of Education, *Circular of Information*, 1957.

[5] North Central Association of Colleges and Secondary Schools, *Policies, Regulations, and Criteria for the Approval of Secondary Schools*, 1957, 23 p.

See also, Commission on Secondary Schools, North Central Association of Colleges and Secondary Schools, *Proposed Revision of the Policies, Regulations, and Criteria of the Commission on Secondary Schools*, 1958, 30 p.

[6] V. L. Nickell, *Guide to the Supervision, Evaluation, and Recognition of Illinois Schools*, Circular Series A, No. 119 (Springfield, Illinois, 1958) 64 p.

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The authors wish to acknowledge the assistance and suggestions of Dr. John Roberts, director of student teaching and teacher placement, Western Illinois University; and especially those of Dr. Richard Brown, executive officer, Teachers College Board, state of Illinois; and Dr. A. L. Knoblauch, president, Western Illinois University, who have read this paper and have made suggestions and critical comments. The opinions expressed, however, are those of the authors.

effect, there are no state requirements in Illinois for graduate work for the classroom teacher. This is also true for Michigan, South Dakota, and Kansas. The catalogue of a large teachers college in the Midwest lists more than a dozen graduate courses in biological sciences, but few of these are subject-matter courses. However, the Illinois State Teachers Certification Board[7] has recommended that supervisors of student teachers hold the master's degree or its equivalent and have approximately 12 semester hours of graduate work in professional education and approximately one-half year of graduate study in their area of specialization.

Another aspect of the problem is the great need for the preparation of college teachers. This was recognized by President Eisenhower (1958) when he recommended to Congress that graduate fellowships and federal grants to institutions be made to encourage more students to prepare for college teaching.[8]

Thus, one of the most important problems facing those who plan graduate curricula for high-school teachers is whether programs should be terminal or designed so that they can also provide the prerequisites for a doctor's degree which will enable the individual to teach in a college or university.

At Western Illinois University graduate students majoring in biological sciences can earn a master's degree with a minimum of 24 semester hours of study in the biological sciences and 8 hours of professional education. An oral examination and either a thesis or two substantial papers are also required. The graduate courses in biological sciences can be prerequisites for doctoral study.[9]

[7] *Ibid.*

[8] Dwight D. Eisenhower, "Recommendations Relative to Our Educational System," *Science Education* 42:103-06; March 1958.

[9] See the *Western Illinois State College Bulletin*, published by the Graduate Division of Western Illinois University, for 1957-58.

Nature of the Problem

In 1958 a survey was made of certain aspects of master's degree preparation in 56 colleges and universities of the United States, mostly in the Midwest. (Of the 90 institutions which were sent questionnaires, 76 responded; and of these 76, 20 indicated that they offered no master's degrees at all, or offered the master's degree only in arts and sciences.) The questionnaire included questions about the number of hours of education and/or psychology required, the hours required for a major in biology, zoology, or botany, and whether a master's degree in education was offered. The institutions were also asked to indicate if they thought a master's degree would increase earnings in larger cities. Another questionnaire was sent to the state superintendents of education and the chairmen of the state committees of the Commission on Secondary Schools of the North Central Association of Colleges and Secondary Schools (hereafter referred to as state NCA chairmen) in 12 midwestern states (Illinois, Missouri, Kansas, Michigan, Wisconsin, Minnesota, Indiana, Ohio, Iowa, Nebraska, South Dakota, and North Dakota).

The questionnaire included the following:

1. Should there be a specified number of semester hours in biology for a master's degree for a high-school teacher of biology?
2. Should the following distinctions be made in master's degrees: (a) a master's degree for administrators, principals, superintendents, supervisors, guidance personnel, etc., and (b) a master's degree for the "master" teacher (subject matter specified)?
3. Should the requirements be enforced by the colleges and universities, the school boards or administrators, the state department of education, or the appropriate accrediting associations?
4. Is it equally important for a biology teacher to know *what* to teach as it is to know *how* to teach?
5. Should salary increases which are normally given when a master's degree is

TABLE I

SUMMARY OF DATA RECEIVED FROM 56 INSTITUTIONS IN REPLY TO THE QUESTIONNAIRE CONCERNING MASTER'S DEGREE PREPARATION IN BIOLOGICAL SCIENCE AND IN EDUCATION

1. Will a master's degree increase earnings in larger cities?	
a. "Yes," or "Yes, usually"	46
b. "No," or "No, usually"	5
c. "School has no data"	1
d. No answer	4
2. How many hours of education and/or psychology are required?	
a. "None"	2
b. No answer	7
c. Variation of answers (in semester hours)	2 to 24
d. Average hours (approximately)	10
3. How many hours are required for a major in biology, zoology, or botany?	
a. No major	16
b. Variation of answers (in semester hours)	3 to 36
c. Average hours (approximately)	18
4. May students elect a graduate major in biology, zoology, or botany, etc.?	
a. "No"	16
b. "Yes"	33
c. Not defined as a major	2
d. Not in education, but M.S. in arts and sciences	1
e. Does not train for teaching	2

earned be determined, at least in part, by the type of master's degree earned?

A space for comments followed each question in the questionnaire.

Results of the Questionnaire

Conclusions drawn from the responses from colleges and universities include the following:

1. Seventy-six of the 90 schools which received the questionnaire responded.

2. Fifty-six of the schools responding offer master's degrees.

3. Thirty-nine of these were state teachers colleges; 31, state colleges; four, state universities; one, a private university; and one, a municipal teachers college. None were private liberal arts colleges.

4. Most schools offering the master's degree considered that such a degree would increase the earnings of the teachers in larger cities.

5. The semester-hour requirements for a major in biology, zoology, and/or botany ranged from 3 to 36, with the average being 18.

6. About two-thirds of the schools offering graduate work permit students to elect biology, zoology, and/or botany as a major, either singly or in a combination with education.

7. The semester hours of professional-education courses required for a master's degree averaged nearly a third of the total hours, leaving about two-thirds for study of biological sciences.

Many of the persons replying to the questionnaire made comments which explained or modified their answers. With a few exceptions the comments supported and reinforced the answers given in the questionnaire. The great majority were in favor of biology teachers having master's degrees in the biological sciences.

Results of the questionnaires sent to state education officers and state NCA committee chairmen are summarized below:

1. Questionnaires were sent to the state officers of education and the state chairmen of the North Central Association's Committee on Secondary Education in 12 midwestern states (Illinois, Missouri, Kansas, Michigan, Wisconsin, Minnesota, Indiana, Ohio, Iowa, Nebraska, North Dakota, and South Dakota).

2. Replies were received from 12 state officers (or persons delegated to reply) and 11 state chairmen of the NCA committees.

3. A considerable majority of the NCA chairmen (9-2) and the state officers (11-1) agreed that there should be a specified number of credit hours of biology for a master's degree for a high-school biology teacher.

4. Most of the state officers (11-1) and the NCA chairmen (9-2) agreed that there should be at least two types of master's degrees, one for the "master teacher" of specified subject matter, and a different one for administrative personnel, etc.

5. All of the state officers (8) and the state NCA chairmen (11) who answered thought that there should be enforcement of requirements for a specified number of semester hours of biology for a graduate major. Their opinions varied considerably concerning the agencies responsible for enforcement, but most emphasized the role of institutions granting the degrees. Some favored the state departments of education, and some thought it should be done co-operatively by agencies responsible for enforcing any other requirements.

6. There was nearly complete agreement by both groups that it is equally important for a biology teacher to know *how* to teach as to know *what* to teach.

7. A considerable majority of the state commissioners (9-1) and a smaller majority of the state officers (10-2) agreed that salary increases should be determined in part, at least, by the type of master's degree earned.

8. There was little difference between the responses of the two groups to the questionnaire.

Recommendations for Graduate Curriculum Planning

These recommendations, if followed, will, in the authors' opinion, lead to an improvement in the graduate preparation of high-school biology teachers. They are based partly on data obtained from the questionnaires discussed above,

TABLE II
SUMMARY OF ANSWERS TO QUESTIONNAIRES RECEIVED FROM STATE SUPERINTENDENTS [a] AND STATE CHAIRMEN OF NORTH CENTRAL ASSOCIATION COMMITTEES

Questions	*State Commissioners* [b] "*Yes*"	"*No*"	*State Superintendents* [c] "*Yes*"	"*No*"
1. Should there be a specified number of semester hours in biology for a master's degree for a high-school teacher of biology?	9	2	11	1
2. Should the following distinctions be made in master's degrees:				
a. a master's degree for administrators, principals, superintendents, supervisors, guidance personnel, etc.?	9	2	11	1
b. a master's degree for the "master teacher" (subject matter specified)?	5	1	8	3
3. Should the requirements (assuming your answer to question 1 was "Yes") be enforced by the colleges and universities, the school boards or administrators, the state department of education or the appropriate accrediting associations?	8	0	11	0
4. Do you think that it is equally important for a biology teacher to know *what* to teach as it is to know *how* to teach?	8	0	12	0
5. Should salary increases which are normally given when a master's degree is earned be determined, at least in part, by the type of master's degree earned?	9	1	10	2

[a] Or persons authorized to reply by the state department of education.
[b] Eleven state commissioners responded.
[c] Twelve state superintendents responded.

and partly on an examination of the catalogues of colleges offering master's degrees in education and on the authors' experience in teacher preparation. In evaluating these recommendations, one should consider the teaching experience and professional preparation of the student. This is especially true if the student is a graduate of a liberal arts college and has had little or no teaching experience.

1. *The graduate curriculum should provide for some specialization within the biological sciences.* A student interested in the animal sciences should take graduate courses in zoology. Similarly, students interested in plants should take graduate courses in botany. The subject-matter background should be sufficient for introductory study for the doctorate and also to help the student become a better-prepared high-school biology teacher. The most recent developments in the field could be studied in these courses, so that experienced teachers could "keep up-to-date."

2. *The graduate curriculum should give students the opportunity to earn a subject-matter master's degree in the biological sciences or a substantial major in these fields.* The completion of the requirements for such a degree should not only make students better teachers of biology by giving them a solid background in the subject-matter, but also permit them to do further advanced study toward the doctorate if desired.

3. *The graduate curriculum in biological sciences should require students to do supervised research, write a thesis, and take an oral examination.* A thesis should be required for all master's degree candidates in the biological sciences. The experience of the writing of a scientific and professionally acceptable thesis covering some phase of biological research would help the biology teachers to teach their students the scientific method more realistically. In addition, such an experience could be of great value if doctoral work is to be undertaken later. Similar arguments could be made in favor of having an oral examination.

4. *The graduate curriculum should provide for a substantial number of courses in the biological sciences.* In a number of teachers colleges and universities where the only master's degree offered is in education, the curricula are often heavily weighted in favor of education courses. About one-third of the colleges replying to the questionnaire which offer master's degrees do not provide for a graduate major in biology. Since many teachers have a bachelor's degree in education, it should not be necessary to require many additional courses in professional education at the graduate level, since this would reduce the number of courses that the student could take in his teaching field. Furthermore, if the master's candidate with this type of preparation wished to pursue doctoral study in biological science he would be at a distinct disadvantage. It is the opinion of most biologists, and many administrators, that "better" biology teachers are prepared by requiring a substantial background in subject-matter courses, especially for graduate students who are experienced teachers and graduates of teachers colleges. (The National Science Foundation will not approve grants for advanced study by science teachers unless the program of study consists largely of subject-matter courses.)

Counselors should advise teachers who take graduate work whether to specialize in biological sciences or to prepare for administrative positions.

5. *The curriculum should be planned to help students overcome important deficiencies that may exist in their undergraduate preparation, either in the biological sciences or in professional education.* If, for example, the students have

studied only a few courses in botany as undergraduates, they should be required to study further in that field before they would be approved for a master's degree. Similarly, other requirements would be added to help eliminate deficiencies in other sciences such as chemistry, or in certain types of field experiences in biology. Advanced methods of teaching, statistics, and certain psychology courses might also be required.

6. *Graduate students should be required to attend departmental seminars and to join departmental organizations, and encouraged to become assistants in field and laboratory courses.* These experiences should help graduate students to become better teachers of biological sciences and to prepare them more adequately for graduate study beyond the master's degree.

7. *Administrators, regional accrediting agencies, and state departments of education should consider the specific subject-matter preparation on the master's level in their evaluation of teachers.* Preparation for a master's degree should be as thoroughly evaluated as that for a bachelor's degree. This recommendation is given support by the almost unanimous affirmative response of the state officers of education and state NCA chairmen who answered the questionnaire.

Summary of Recommendations

It is recommended that graduate curricula for "master teachers" of biological sciences in high schools be organized to provide for (1) *specialization* within the biological sciences; (2) *master's degrees* or a substantial major in the subject-matter fields of the biological sciences; (3) *supervised research, a thesis, and an oral examination;* (4) *a substantial proportion of graduate courses in the biological sciences* as compared to courses in professional education; (5) *fundamental preparation for work beyond the master's degree;* (6) *background for overcoming important deficiencies* in undergraduate preparation in both biological sciences and professional education; (7) *seminars, opportunity for participation in departmental organizations, and assistantships* in laboratory and field courses; (8) *training for superior teaching ability;* (9) *graduate counseling programs,* organized to take into consideration both the needs of the schools and those of the individual student; and (10) *a basis for a critical evaluation of graduate curricula* for teachers by graduate schools, administrators, regional accrediting agencies, and state departments of education that is related to the teaching position to be filled.

Teaching and Researching

". . . why have not the practitioners produced the research?" It must be admitted that, until quite recently, people not engaged actively in teaching have performed most of the research in education. These people, for the most part, have been the *students* of education, or life sciences related to education, not the *practitioners.* A long and esteemed tradition has grown up (around that curious anomaly—a "scientific" prejudice) that research is not an activity in which amateurs can engage. This tradition and the research contributed by the professional researchers seem to have produced two interesting effects: the practitioners have avoided engaging in research activities of their own and the total "acceptable" research that has been done seems to have exerted relatively little impact on the improvement of teaching. If this statement is true, it reflects no great credit on either the researcher or the practitioner.—*Fred P. Barnes,* PRACTICAL RESEARCH PROCESSES *(Illinois Curriculum Program, Office of the Superintendent of Public Instruction, Springfield, Illinois) p. 1.*

Rodney M. Jones

Off-Campus Student-Teaching Programs—Their Size and Importance

A 39-ITEM questionnaire was mailed in February 1957 to directors of student teaching at 1,214 teacher-preparing institutions throughout the United States. Of the 630 questionnaires returned, 551 were used in this study. These 551 respondents reported 49,297 off-campus student teachers who taught in 11,909 individual co-operating schools and 22 entire school systems, and who were guided by 41,973 off-campus co-operating teachers during their student-teaching experiences. A somewhat more detailed analysis of the size of the off-campus student-teaching programs follows.

Size of the Programs

Small Institutions[1]

Officials at 422 small teacher-preparing institutions returned usable questionnaire replies. They represent 134 public, 73 private, and 215 church-related institutions. A summary of the data from these questionnaires is reported in Table I concerning five factors which are indicative of the size of the off-campus student-teaching programs—the number of student teachers, co-operating schools, co-operating teachers, and full-time and part-time college supervisors. The 134 small public institutions reported a total of 6,016 off-campus student teachers, with a range of from two to 100 per institution and a median of 40 student teachers. The student teachers were guided by a total of 5,212 off-campus co-operating teachers. From two to 147 co-operating teachers per institution was reported, and the median was 32 off-campus co-operating teachers. One dean of instruction of a college in a large midwestern city reported an estimated 400 co-operating teachers for 75 student teachers, with the following explanation:

> The college and the co-operating schools are all under the administration of the superintendent of instruction of the ——— public schools. All of our Senior I students spend a full semester as apprentice teachers in the regular public elementary schools of ———.

Commenting on their programs, several respondents explained that their students had experience in two or more schools and with two or more co-operating teachers. In some cases, it was pointed out that co-operating teachers frequently assumed responsibility for several student teachers at one time. These notations added to the questionnaires were found frequently enough to warrant the conclusion that such practices are not exceptional.

The student teachers utilized a total of 1,758 off-campus co-operating schools. A range of from one to 75 co-operating schools per institution was reported, with a median of 10 co-operating schools.

The use of 51 full-time college supervisors was reported by the 134 small public institutions with a range of from

[1] Not more than 100 student teachers per year.

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This is the first of a series of three articles by Dr. Jones reporting the findings of a study of off-campus student-teaching programs in 551 teacher education institutions in the United States. The second and third articles in the series, to be published in the next two issues of the JOURNAL OF TEACHER EDUCATION, *are entitled "College-Sponsored Recognition Designed to Improve the Professional Competence of Co-operating Teachers," and "College-Sponsored Monetary Recognition of the Services of Co-operating Teachers."*—EDITORS.

none to five. The use of five full-time supervisors at one small public institution was explained by the president of the college, who stated that they employed them "one week full-time, three weeks part-time"—evidently on a rotating basis. The use of part-time supervisors by small institutions ranged from none to 18 per institution with a median of two.

Briefly, the data in Table I show that the typical small public institution had 40 off-campus student teachers assigned to 10 off-campus co-operating schools and guided by 32 off-campus co-operating teachers. It had no full-time college supervisors, but the student teachers were supervised by two part-time college supervisors.

Medians for the 73 small private teacher-preparing institutions were 28 student teachers, nine off-campus co-operating schools, 24 off-campus co-operating teachers, and no full-time and two part-time college supervisors.

TABLE I

SIZE OF OFF-CAMPUS STUDENT-TEACHING PROGRAMS AT SMALL INSTITUTIONS

	Types of Institutions			
	Public	*Private*	*Church-Related*	*Totals*
Number of Institutions	134	73	215	422
Number of Off-Campus Student Teachers				
Totals	6,016	2,535	7,870	16,421
Ranges	2–100	1–96	1–100	
Medians	40	28	31	
Number of Co-operating Teachers				
Totals	5,212	2,410	7,324	14,946
Ranges	2–147 [a]	1–100	2–131	
Medians	32	24	32	
Number of Co-operating Schools				
Totals	1,758	814	2,381	4,953
Ranges	1–75 [b]	1–60 [c]	1–175	
Medians	10	9	8	
Number of Full-time College Supervisors				
Totals	51	25	38	114
Ranges	0–5	0–4	0–5	
Medians	0	0	0	
Number of Part-Time College Supervisors				
Totals	413	173	513	1,099
Ranges	0–18	0–9	0–15	
Medians	2	2	2	

[a] One institution reported an estimated 400 co-operating teachers.
[b] One institution reported using two entire school systems.
[c] One institution reported using one entire school system.

TABLE II
SIZE OF OFF-CAMPUS STUDENT-TEACHING PROGRAMS AT MEDIUM-SIZED INSTITUTIONS

	Types of Institutions			
	Public	*Private*	*Church-Related*	*Totals*
Number of Institutions	66	16	17	99
	Number of Off-Campus Student Teachers			
Totals	11,833	3,288	2,378	17,499
Ranges	100–280	106–300	105–275	
Medians	170	200	125	
	Number of Co-operating Teachers			
Totals	8,812	2,357	1,964	13,133
Ranges	17–300	75–460	50–257	
Medians	125	174	107	
	Number of Co-operating Schools			
Totals	2,234	961	590	3,785
Ranges	3–120[a]	20–150[b]	3–163	
Medians	25	56	20	
	Number of Full-Time College Supervisors			
Totals	83	9	9	91
Ranges	0–12	0–4	0–4	
Medians	1	0	0	
	Number of Part-Time College Supervisors			
Totals	525	129	53	707
Ranges	0–72	0–25	0–10	
Medians	6	6	3	

[a] One institution reported using four entire school systems.
[b] One institution reported using 15 school systems.

Similarly, medians for the 215 small church-related institutions were 31 off-campus student teachers, eight co-operating schools, 32 off-campus co-operating teachers, and no full-time and two part-time college supervisors.

Medium-Sized Institutions[2]

Questionnaire replies were received from officials at 99 medium-sized teacher-preparing institutions. Table II shows that 66 of these were public, 16 were private, and 17 were church-related.

The 66 public institutions reported a total of 11,833 students in their off-campus student-teaching programs with a range of from 100 to 280 per institution and a median of 170 student teachers. These students utilized a total of 2,234 off-campus co-operating schools. A range of from three to 120 schools per institution was reported with a median of 25 co-operating schools. The student teachers from the medium-sized public colleges were directed by 8,812 off-campus co-operating teachers. From 17 to 300 co-operating teachers per institution with a median of 125 were reported. A total of 83 full-time college supervisors was reported with a range of from none to 12 and a median of one per institution. Part-time college supervisors numbered 525 and ranged from none to 72, with a median of six per institution.

Though reports were received from considerably fewer medium-sized private institutions than from public institutions, the typical private college appeared to have an off-campus student-teaching program which was somewhat

[2] From 101 to 300 off-campus student teachers per year.

TABLE III
SIZE OF OFF-CAMPUS STUDENT-TEACHING PROGRAMS AT LARGE INSTITUTIONS

	Types of Institutions			
	Public	*Private*	*Church-Related*	*Totals*
Number of Institutions	24	5	1	30
Number of Off-Campus Student Teachers				
Totals	12,129	2,313	935	15,377
Ranges	328–1,200	400–600	—	
Medians	439	413	—	
Number of Co-operating Teachers				
Totals	11,347	1,902	645	13,894
Ranges	125–1,640	179–500	—	
Medians	350	415	—	
Number of Co-operating Schools				
Totals	2,529	539	103	3,171
Ranges	24–800	35–350	—	
Medians	65	62	—	
Number of Full-Time College Supervisors				
Totals	53	83	0	136
Ranges	0–8	0–75	—	
Medians	3	—	—	
Number of Part-Time College Supervisors				
Totals	399	133	33	565
Ranges	2–39	0–75	—	
Medians	15	12	—	

larger than that of the typical medium-sized public institution. The medians for private institutions were found to be 200 student teachers, 56 co-operating schools, 174 off-campus co-operating teachers, and no full-time and six part-time college supervisors.

The church-related teacher-preparing institutions reported off-campus student-teaching programs which appeared to be somewhat smaller than those reported for either the medium-sized public or private institutions. For the church-related institutions the medians were found to be 125 student teachers, 20 co-operating schools, 107 co-operating teachers, and no full-time and three part-time college supervisors in their off-campus student-teaching programs.

Large Institutions[3]

Table III gives data received from 30 large institutions regarding the five factors indicating the size of their off-campus student-teaching programs. The 24 large public institutions provided the off-campus student-teaching experience for 12,129 students. Ranging from 328 to 1,200 off-campus student teachers per institution, the median was 439. They utilized a total of 2,529 off-campus co-operating schools, ranging from 24 to 800 per institution, with a median of 65. The student teachers from the large public institutions worked with 11,347 off-campus co-operating teachers. Respondents reported a range of from 125 to 1,640 off-campus co-operating teachers per institution and a median of 350. A total of 53 full-time and 399 part-time college supervisors was employed. The number of full-time supervisors ranged from none to eight, with a median of three per institution, and the number of part-time supervisors ranged from two to 39, with a median of 15 per large public institution.

[3] More than 300 student teachers per year.

Medians for the typical large teacher-preparing institution (only five are included) are 413 student teachers, 62 co-operating schools, 415 co-operating teachers, and no full-time and 12 part-time college supervisors in its off-campus student-teaching program.

The large private institution reporting 75 full-time supervisors was an eastern university with more than 500 off-campus student teachers. The students have from one to three off-campus experiences and receive an average of eight supervisory visits during each eight-week period. There are no part-time supervisors and the full-time supervisors have no other professional duties during their eight-week supervisory assignment.

Only one large church-related institution responded to the questionnaire. This institution reported 935 student teachers, 645 co-operating teachers, 103 co-operating schools, and no full-time and 33 part-time college supervisors in its off-campus program.

For all 551 institutions, the data yield a median of approximately four off-campus student teachers per co-operating school and an average of slightly more than one student teacher per co-operating teacher.

For 31 institutions which employed only full-time college supervisors, the data yield a median of 18 off-campus student teachers per supervisor. This may be compared with the median of 15 student teachers per part-time college supervisor, which was computed from data reported by 323 other institutions which employed only part-time college supervisors.

Importance of Off-Campus Student-Teaching Programs

With information at hand concerning the size of the off-campus student-teaching program, some indication of its importance as compared to the rest of the college program is needed. The average four-year college program usually includes 120 to 128 semester hours of credit, or 30 to 32 semester hours of credit per academic year, and the average academic year usually includes about 36 weeks. The number of weeks spent and the number of credits earned by students in their off-campus student-teaching experience were reported by those who returned the questionnaire.

The duration of the off-campus student-teaching experience, which varies considerably, was reported in terms of "class hours," "clock hours," "half days," "weeks," "quarters," "semesters," or fractions of a "school year." As far as possible, such reports were equated to a number of weeks of student teaching. Some institutions reported that the length of the student-teaching program varied, depending on the type of program. For example, elementary-education and secondary-education students spent 16 and 12 weeks, respectively, in off-campus student teaching. For the tabulations in the study only one figure —the largest—per institution was used.

In answer to the query on the number of credits earned by off-campus student teachers, many respondents used such phrases as "semester hours," "term hours," "hours credit," "quarter hours," "points," and "units." A great majority, however, evidently understood or found acceptable the word "credit" which was used in the questionnaire. As far as possible, therefore, all responses were equated in "credits" and are thus reported here. Frequently institutions which carry on several types of teacher-preparing programs such as elementary-school, secondary-school, or special-subject programs, award different amounts of credit for each program. Respondents from these institutions reported several figures. In such cases only the largest number of credits for each institution was utilized in the tabulations.

Thus it is possible to compare the number of credits assigned and the duration of the off-campus student-teaching

program with that of the total academic program offered at teacher-preparing institutions. The number of classroom visits by college supervisors received by each student teacher was also reported and serves as further evidence of the comparative importance attributed to off-campus student teaching by the colleges.

Length of Off-Campus Student-Teaching Experience

To summarize the data concerning the length of the off-campus student-teaching programs and to determine whether the number of weeks reported was related in any way to the size of the institutions, Table IV was prepared. The reports from 422 small institutions show a range of from one to 36 weeks of off-campus student teaching, with medians of 12 weeks for public and church-related institutions and 10 weeks for private institutions. At the 99 medium-sized teacher-preparing institutions, students spent from three to 36 weeks in off-campus student teaching, and medians for all three types of institutions were 12 weeks. Student teachers at the 30 large institutions spent from six to 36 weeks in their off-campus teaching, and the median for all 30 institutions was 11 weeks. Thus, there appears to be no significant relationship between the length of their off-campus student-teaching programs and the size of the colleges. However, the length of the off-campus student-teaching experience averaged about 10 weeks for private institutions and about 12 weeks for both public and church-related institutions.

Credits Assigned to Off-Campus Student Teaching

Table V summarizes the data gathered concerning the number of academic credits assigned to off-campus student teaching. The number of credits earned per student in off-campus student teaching varied among the 422 small teacher-preparing institutions from none to 18 credits. Medians for all three types of small institutions were the same—6 credits. Students attending the 99 medium-sized institutions were reported to receive credits for off-campus student teaching ranging from 4 to 18 at public institutions, from 6 to 16 at private institutions, and from 3 to 12 at church-related institutions. Medians are 8 credits for public, 9 for private, and 6 for church-related institutions. Reports for the 30 large teacher-preparing institutions gave a range of from 4 to 16 credits per off-campus student teacher, with medians of 8 credits for the public

TABLE IV
NUMBER OF WEEKS OF OFF-CAMPUS STUDENT TEACHING

	Types of Institutions			
	Public	*Private*	*Church-Related*	*Totals*
	Small Institutions			
Number of Institutions	134	73	215	422
Ranges in Weeks	2–36	1–32	2–32	1–36
Median Weeks	12	10	12	12
	Medium-Sized Institutions			
Number of Institutions	66	16	17	99
Ranges in Weeks	5–36	3–30	6–32	3–36
Median Weeks	12	12	12	12
	Large Institutions			
Number of Institutions	24	5	1	30
Ranges in Weeks	6–18	9–36	20	6–36
Median Weeks	11	18	20	11

TABLE V
NUMBER OF ACADEMIC CREDITS AWARDED PER STUDENT FOR OFF-CAMPUS STUDENT TEACHING

	Types of Institutions			
	Public	*Private*	*Church-Related*	*Totals*
	Small Institutions			
Number of Institutions	134	73	215	422
Ranges	0–16	0–16	1–18	0–18
Median	6	6	6	6
	Medium-Sized Institutions			
Number of Institutions	66	16	17	99
Ranges	4–18	6–16	3–12	3–18
Median	8	9	6	8
	Large Institutions			
Number of Institutions	24	5	1	30
Ranges	4–15	6–16	11	4–16
Median	8	7	11	8

institutions and 7 credits for the private institutions. Eleven credits were awarded by the one large church-related institution. Medium-sized and large institutions generally award more credits for off-campus student teaching than do the small colleges, and public and private institutions generally award more credits than church-related colleges.

Number of Visits of College Supervisors Per Student Teacher

Nearly all institutions reported that their off-campus student teachers received classroom visits by college supervisors. Table VI provides a summary of the data gathered regarding the number of such supervisory visits. From one to 20 visits, with a median of four visits per student teacher are reported by small public institutions. Small private institutions reported from none to 20 visits, with a median of four, and small church-related institutions reported from none to 18 with a median of three classroom supervisory visits per off-campus student teacher. The data for medium-sized teacher-preparing institutions show a range of from one to 15, with a median of four supervisory visits to each off-campus student teacher at public institu-

TABLE VI
NUMBER OF CLASSROOM VISITS BY COLLEGE SUPERVISORS TO EACH OFF-CAMPUS STUDENT TEACHER

	Types of Institutions			
	Public	*Private*	*Church-Related*	*Totals*
	Small Institutions			
Number of Institutions	134	73	215	422
Ranges	1–20	0–20	0–18	0–20
Median	4	4	3	4
	Medium-Sized Institutions			
Number of Institutions	66	16	17	99
Ranges	1–15	2–18	1–15	1–18
Median	4	5	4	4
	Large Institutions			
Number of Institutions	24	5	1	30
Ranges	1–25	3–12	5	1–25
Median	4	8	5	4

tions. For medium-sized private institutions, from two to 18 visits, with a median of five per off-campus student teacher are shown, and for the church-related institutions, a range of one to 15 visits, with a median of four visits per student teacher are reported. The large public teacher-preparing institutions reported a range of from one to 25 and a median of four supervisory visits received by each off-campus student teacher. For large private institutions, from three to 12, with a median of eight supervisory visits per student teacher were reported. Each student teacher at the large church-related institution was reported to receive five supervisory visits during his off-campus experience. Despite variations, the table shows that the number of supervisory visits to off-campus student teachers does not seem to be related to either the size or the type of institution.

Summary

In general, public teacher-preparing institutions averaged slightly larger numbers of off-campus student teachers, co-operating schools, and co-operating teachers than either private or church-related institutions. For all institutions combined, approximately four student teachers are assigned per co-operating school and slightly more than one per co-operating teacher.

With respect to college supervision of off-campus student teachers, full-time supervisors are used more frequently, on an average, by public institutions than by either private or church-related institutions. However, with part-time supervisors, the situation is reversed, for they are used more frequently by private and church-related institutions than by the public institutions. On an average, the full-time college supervisors are responsible for 18 and the part-time supervisors for 15 off-campus student teachers.

Off-campus student teachers at church-related institutions received, on an average, three classroom visits by college supervisors, and the student teachers of both public and private institutions received four visits.

The length of the off-campus student-teaching experience averaged about 10 weeks for private institutions, and about 12 weeks for both public and church-related institutions. All three types of institutions offered an average of 6 credits for the off-campus experience.

Although the actual work done by the co-operating teachers has not been discussed in this report, the importance of their contribution to education is implicit, for without them the present off-campus student-teaching program could not exist.

An Effective Tool

Although certification is ordinarily known as "that instrument which makes you take some courses in education before you can teach," its chief utility has been in raising the level of general college preparation and in strengthening the possession of subject-matter specialization by those who enter teaching as a vocation. In the past 50 years minimum certification requirements for professional education have been raised typically by less than 25 per cent, while minimum general college preparation requirements have more than doubled. Of course, many other influences have been at work to establish teaching as a vocation for college graduates at the minimum, but certification has served as the key lever. It has been a most effective tool for this purpose.—*L. D. Haskew, "Certification As an Instrumentality," in* THE EDUCATION OF TEACHERS: CERTIFICATION, *Report of the San Diego Conference, June 1960. (To be published in January, 1961, by the National Education Association, National Commission on Teacher Education and Professional Standards, Washington, D. C.)*

Fred G. Rhodes
Dorothy R. Peckham

Evaluative Reports on Student Teachers

What Administrators Desire—And What They Get

EACH year many able, and sometimes a few not so able, newly certificated teachers face the urgent and pressing problem of finding employment. Thoughtful administrators view these graduates and attempt, by various means, to select and employ those whose quality of training, attitudes, thinking, and personalities make them best fitted professionally and psychologically to accept specific assignments, under varying school conditions, in particular communities.

In the face of a staggering deficit in the nation's professional manpower, especially in the field of teaching, the selection of newly certificated instructors, wholly without experience, is a difficult task, indeed, for any administrator. As many superintendents have discovered, the responsibility for securing well-qualified teachers can be a time of trial and terror. Avoidance of the terror might be possible, however, if the administrator could only observe the student teacher in action on the job—if he could watch him work informally with children; see him prepare materials and plan lessons; view his general behavioral patterns; judge whether he showed poise or tension; note his acceptance or rejection by the pupils; perceive his interest or lack of it; pay attention to his eagerness or timidity to start each class day; and thus evaluate and determine the readiness of the potential employee. If only he could do this—but, unfortunately, he cannot.

Insight and objective data bridge the gap between capable or capricious selection and choice or chance. In many cases the selective judgment will be subjectively based upon observation and the ability to interpret this observation during a personal interview. In addition, objective data will furnish various clues concerning the abilities and experiences of the newly-certificated teacher. His academic transcript and placement papers often furnish quite complete information and cover such items as an autobiography, record of courses, experiences related to teaching, letters of recommendation, job history, travel, and student teaching reports.

It is no secret that the administrator's most important, single criterion in the selection of a beginning teacher is the report of the student's directed teaching experience. It is heavily relied upon as it is, or should be, the honest, accurate, and comprehensive report by college supervisors and co-operating teachers who have observed the student in action on the job for one or two semesters. Here is information supplied by experts. Expert as they are through training and experience, the question is, Are they giving information desired and considered most helpful by the employing administrator?

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In order to answer this question, the authors first undertook and completed a study which was reported in the March 1960 issue of the *Journal of Teacher Education* under the title, "Evaluations of Beginning Teachers: Pointers and Opinions."

The findings of this study indicated which personal qualities and professional competences were considered most important in the written evaluation by 31 school districts who employ graduates of the teacher education program at Los Angeles State College. All items listed under personal qualities in the checklist sent to the 31 administrators were considered important. The three personal qualities judged to be most significant in the written evaluation by the college supervisor were (1) emotionally poised, (2) health and vitality, and (3) courtesy and tact.

All items listed under professional competences were considered important by the administrators, but the four judged to be of greatest importance in the written evaluation were (1) ability to plan lessons and to motivate learners; (2) knowledge of basic skills; (3) development of pupil morale; and (4) attention to individual differences.

In response to a question: "What would you like to know about teacher candidates?" 44 per cent wanted a report on the candidate's alertness and enthusiasm and 37 per cent wanted to know as much as possible about the student's professional competence in the student teaching situation.

The 31 administrators responding to the check-list were unanimous in desiring the college supervisor to give attention to both personal qualities and professional competences in the written evaluation. All of them also wished to be informed of a particular talent or special interest of the student teacher.

Fourteen of the 31 responded to a request for suggested ways of improving the written evaluation. A frank, specific evaluation giving both strengths and weaknesses of the student teacher was mentioned by seven of these 14. Three persons suggested that it would be helpful for the college supervisor to compare the student with other student teachers with whom he had worked.

The present article is a continuation of this research, the major objective of which is to compare the personal qualities and professional competences rated highest by the 31 school administrators employing graduates of Los Angeles State College with those stressed by college supervisors in past written evaluations of student teachers. Two hundred evaluative reports, 100 written by supervisors of elementary-school student teachers and 100 written by supervisors of secondary-school student teachers, were used in making the comparison.

The 200 student-teacher evaluations by college supervisors were obtained from folders in the Placement Office at Los Angeles State College. One hundred "elementary" folders and 100 "secondary" folders were selected at random, carefully read, and tabulated on the basis of whether mention was made of the seven high-ranking items. Tabulations were made for negative comments as well as for positive ones. Tables I-III give the results of this tabulation.

Table I indicates lack of agreement between the administrators' rating of the quality "emotionally poised" and supervisors' attention to this personal quality in the written evaluations. Twenty-eight (84 per cent) of the administrators considered this quality to be essential in the evaluation report, and it was found only 82 times (41 per cent) in the 200 evaluations used in this study. Fourteen (46 per cent) of the administrators thought that health and vitality should be mentioned in the report, but only 17 (8.5 per cent) of the 200 evaluations examined contained information on the applicant's health. Thirteen (43 per cent) of the administrative group judged "enthusi-

TABLE I
HIGH-RANKING PERSONAL QUALITIES MENTIONED BY COLLEGE SUPERVISORS IN 200 STUDENT-TEACHER EVALUATIONS COMPARED WITH 31 ADMINISTRATORS' RANKING OF THESE QUALITIES AS ESSENTIAL

Quality	*Per Cent of Mention by College Supervisors in Evaluations*	*Per Cent of Administrators Rating Quality Essential*
Emotionally Poised	41	84
Health and Vitality	8.5	46
Enthusiasm and Forcefulness	35	43

asm and forcefulness" as a point worthy of mention by college supervisors. However, only 70 (35 per cent) of the 200 evaluations made specific reference to this quality.

Table II shows some agreement between administrators and college supervisors concerning the importance of reporting the student teacher's ability to plan lessons and to motivate learners. Specific reference to this competence was made in 113 (56.5 per cent) of the 200 written evaluations examined. College supervisors attach less importance than do administrators to reporting on the student's ability to develop pupil morale, since it is given recognition in 99 (49.5 per cent) of the 200 written evaluations used in this study. There appears to be even less agreement concerning the other two items, "Knowledge of Basic Skills" and "Attention to Individual Differences." Sixty-two per cent of the administrators judged each of these competences to be essential, but they were mentioned by only 38.5 per cent and 12.5 per cent, respectively, of the college supervisors.

The study further revealed that not one of the 200 written evaluations mentioned all seven of the items judged by administrators to be essential in the college supervisors' reports on student teachers. Table III indicates the number of items mentioned in the individual evaluation reports.

Twelve of the 200 evaluations written by college supervisors did not mention any one of the seven items ranked essential by administrators. Forty-seven reports gave attention to one item and three items were found in 48 of the evaluations.

Study of factors which contribute to success in a given occupation have shown, as common sense would indicate, that achievement in any field depends not upon any single factor but upon combinations of various factors. It is readily known that an occupation such as teaching demands certain qualifications for success in that field of endeavor.

It has been the purpose of this study to state, to discuss, and perhaps to shed some light upon the problem of the qualifications which employing school administrators would like stressed in the teacher education reports, and the factors the college supervisors have emphasized in their written evaluations. In a

TABLE II
HIGH-RANKING PROFESSIONAL COMPETENCES MENTIONED BY COLLEGE SUPERVISORS IN 200 STUDENT-TEACHER EVALUATIONS COMPARED WITH 31 ADMINISTRATORS' RANKING OF THESE COMPETENCES AS ESSENTIAL

Competence	*Per Cent of Mention by College Supervisors in Evaluations*	*Per Cent of Administrators Rating Competence Essential*
Ability to Plan and Motivate Lessons	56.5	78
Development of Pupil Morale	49.5	74
Knowledge of Basic Skills	38.5	62
Attention to Individual Differences	12.5	62

TABLE III
NUMBER OF ESSENTIAL ITEMS MENTIONED IN INDIVIDUAL STUDENT TEACHER EVALUATION REPORTS BY COLLEGE SUPERVISORS

Number of Items Mentioned	*Number of Evaluations*
0	12
1	47
2	42
3	48
4	28
5	28
6	5
7	0

previous study, three personal qualities and four professional competences were ranked as essential by administrators. In this study, 100 elementary-school and 100 secondary-school student-teacher reports written by college supervisors have been carefully read and tabulated. The purpose has been to determine what agreement has existed between the seven factors ranked as essential by the administrators and the contents of the supervisors' written evaluations.

There was a wide range of agreement between the supervisors' statements concerning the personal qualifications essential in written evaluations and the administrators' rank of these qualities. The tabulation of statements concerning professional competences revealed that "Ability to Plan Lessons and to Motivate Learners" was mentioned in 56.5 per cent of the supervisors' evaluations as compared with 78 per cent of administrators giving this top ranking. Forty-nine and five tenths per cent of the supervisors' reports contained information on "Development of Pupil Morale" and 74 per cent of the administrators judged this as essential. "Knowledge of Basic Skills" was mentioned in 38.5 per cent of the 200 written evaluations, although 62 per cent of the administrators wanted this item to be included. Only 12.5 per cent of the supervisors' reports mentioned "Attention to Individual Differences," but 62 per cent of the administrative judges voted for its inclusion. Forty-one per cent of the supervisors included information regarding "Emotional Poise"; 48 per cent of the administrative group listed this item as essential. "Enthusiasm and Forcefulness" showed high agreement, while little agreement was evidenced in the statements regarding information on "Health and Vitality."

None of the 200 evaluation reports mentioned all seven items judged by the administrators to be essential. Five reports included six of the items; 28, five items; 28, four items; 48, three items; 42, two items; 47, only one; and 12 supervisors' reports did not give attention to any of the seven items.

Most of the reports which were written by college supervisors were carefully prepared. They extensively covered numerous informative items concerning the activities and qualifications of the student teacher in action on the job. The purpose here has not been to judge the value of these reports, but to compare their contents with the specific items desired in an evaluation report by school administrators.

Progress will be shown and improvement will be made whenever employers of teacher candidates receive more valuable and meaningful information in assessing the qualifications of job applicants. With this in mind, we feel it would be helpful for college supervisors to give attention to the seven high-ranking items desired by administrators in student-teacher evaluations.

Action—Not Talk

Too many people have taken out their interest in better schools in talk. We cannot talk ourselves into quality levels of education. We cannot buy quality education in the bargain basement—*William G. Carr, "Action—Not Talk,"* NEA JOURNAL, *January 1960, p. 7.*

Elmer Eason

Semantics and Logic for Education Students

If teachers are in command of the criteria used to accredit content in the subjects they teach, they are likely to be in a better position to assist students to improve their critical thinking.

AN important objective of teaching is to assist students to improve their critical thinking. Interpreting critical thinking to mean the application of principles of induction, deduction, and semantics, it can be assumed that the most effective means by which teachers can assist students to improve their critical thinking involves instructing the students in semantics and principles of induction and deduction.[1]

To be able to provide such instruction, teachers themselves should know their subject matter. They are more likely to know the subject matter if it has been a part of their own preparation for teaching.

Furthermore, to teach any subject, a teacher is called upon to perform logical and semantic operations.[2] Whether or not he has conceptualized the principles underlying them, the teacher is required by the very nature of the act of teaching to perform such operations as (1) prescribing, defining, explaining, justifying, and proving; and (2) examining discourse to determine the meanings of key terms, to locate any obstructions or preclusions to clarity, and to judge conclusions as to whether they are adequately supported by facts and whether they follow necessarily from their premises. If the teacher has acquired a conceptual grasp of the principles underlying logical and semantic operations, he is likely to be more effective in his performance of these operations than if he has not conceptualized the underlying principles. Teachers are more likely to have conceptualized the principles underlying the operations if they have had instruction in semantics and logic than if they have not had this instruction.

On the basis of the assumptions stated above, it is claimed that instruction in semantics and logic should be a part of teacher education. Such instruction would help teachers to be more capable of: (1) assisting students to improve their critical thinking and (2) performing the logical and semantic operations called for in the act of teaching.

If teacher education should include instruction in semantics and logic, then it should be of concern to persons responsible for teacher education to have information regarding the current status

[1] Other factors, such as practice in the performance of logical and semantic operations and personal involvement on the part of students, would also be involved.

[2] For a more thorough treatment of the use of logic and semantics in the act of teaching, see B. Othanel Smith, "The Anatomy of Teaching," *Journal of Teacher Education* 7:334-36; December 1956.

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This article is adapted from the author's unpublished doctoral dissertation, "Semantics and Logic in Teacher Education: A Survey," completed at the University of Illinois, Urbana, February, 1958.

of such instruction. Such information would be needed to judge whether the current status were adequate and, if not, what corrective actions might lead to a better state of affairs. The purpose of the study reported here has been to secure some of the needed information.

The Problem

To secure information regarding preparation in semantics and principles of induction and deduction for education students at the undergraduate level and the master's degree level, the study was designed to determine: (1) the percentage of institutions requiring education in semantics or logic or both; (2) the amount of such education required; (3) the percentage of institutions offering such education through elective courses in professional education; and (4) the amount of such education offered.

Sources and Collection of the Data

To secure the data needed for the study, a survey was conducted by mail. Questionnaire forms and other materials were developed and sent to a sampling of teacher education institutions in the United States (including territories) which grant degrees at the bachelor's level or higher and which are approved by one or more of the following: a state department of education, a regional accrediting association, and the National Council for Accreditation of Teacher Education. A trial run was made to test the materials, and, on the basis of suggestions received, revisions were made. A list of the institutions comprising the original population was then compiled.

A sampling stratified according to type of institution was used. The strata used for this study were (1) Roman Catholic colleges; (2) general colleges; (3) teachers colleges; and (4) universities. The category "general colleges" included for the most part privately controlled institutions commonly referred to as "liberal arts colleges." Also included were state-controlled institutions, mostly of the type which were at one time teachers colleges or normal schools but have since become, at least nominally, less specialized. The sampling was secured by using a random-start, systematic method. For each institution in the sampling the name of the person to be contacted was secured. Each of these persons was mailed a copy of each of the forms and other materials.

After the forms had been returned it was found that the data would be more meaningful if the original sampling were separated into two parts, each representing a different population. The two populations used for the final analysis were: (1) teacher education institutions in the United States and its territories which grant the bachelor's degree and (2) teacher education institutions in the United States and its territories which offer instruction in education at the master's level.

Analysis of the Data

This article reports interpretations of the data and conclusions drawn, but the tables of statistical data upon which the interpretations and conclusions are based have not been reproduced. Tests of significance used in the analysis of the data were chi-square and the Fisher-Yates exact probability method.[3] In conformity with general practice, a significant difference was considered as one which would not occur by chance more than five times out of 100 comparable samplings.

Of the 194 institutions included in Sample One, 111 (57 per cent) returned the forms. Of the 81 institutions included in Sample Two, 51 (63 per cent) returned the forms. During the period

[3] The Fisher-Yates method was used in cases of 2 x 2 contingency tables with expected frequencies too small for the use of chi-square. See Elmer Eason, "Semantics and Logic in Teacher Education: A Survey." (Unpublished doctoral dissertation, University of Illinois, Urbana, February, 1958) p. 11-12.

when the study was being designed it was anticipated that 100 per cent returns would not be secured. The design included logical tests for the absence of evidence or reasoning suggesting bias. The data fulfilled the requirements of these tests.[4] Thus, the returns were assumed to be representative of the population.

Conclusions Regarding Training at the Bachelor's Level

Analysis of the data from Sample One returns permitted the following conclusions regarding Population One:

1. Approximately 38 per cent of Population One institutions *require* preparation in semantics or logic or both for all education students at the bachelor's level.

2. Roman Catholic colleges are significantly higher than other types of institutions with regard to the percentage of institutions requiring such training.

3. The median number of semester hours of required preparation is about zero. The third quartile is about 1.35 semester hours.[5]

4. For those institutions which require some preparation—disregarding the institutions requiring none—the median semester-hour requirement is about 2.2.

5. For those institutions requiring some preparation, Roman Catholic colleges require a significantly greater number of semester hours of preparation than either general colleges or teachers colleges. The difference in all other cases is nonsignificant.

6. Approximately 12 per cent of the institutions offer preparation in semantics or logic or both through elective education courses.

7. With regard to the percentage of institutions offering such *preparation through elective education courses,* the difference between each type and every other type is nonsignificant.

8. For both the median and the third quartile, the number of semester hours of preparation offered is about zero.

9. For those institutions offering some training—disregarding those offering no training—the median number of semester hours of preparation offered is about .41.

Conclusions Regarding Training at the Master's Level

Analysis of the data from Sample Two returns permitted the following conclusions regarding Population Two:

1. Approximately 27 per cent of Population Two institutions require preparation in semantics or logic or both for all education students at the master's level.

2. With regard to the percentage of institutions requiring such preparation, the difference between each type and every other type of institution is nonsignificant.

3. The median number of semester hours of required preparation is about zero. The third quartile is about .15 semester hours.

4. For those institutions which require some preparation—disregarding those requiring none—the median number of semester hours required is about .89.

5. Approximately 20 per cent of the institutions offer semantics or logic or both through elective education courses.

6. With regard to the percentage of institutions offering such instruction, the

[4] *Ibid.*, p. 17-21; 31-33.

[5] Respondents were asked for information regarding courses devoted completely or in part to semantics and logic as related to the work of the teacher. For courses devoted in part to this content, respondents were asked to estimate the per cent of time used in this way. Semester hours of training were computed: (1) by multiplying the number of semester hours of credit given for each course by the per cent of class time devoted to semantics and logic and (2) where more than one course was involved, by adding the products secured. In some instances computation of semester hours of training produced whole numbers; in others, fractional numbers; and in still others, mixed numbers. Median and third quartile points frequently coincided with fractional or mixed numbers.

difference between each type and every other type of institution is nonsignificant.

7. For both the median and the third quartile, the number of semester hours of preparation offered is about zero.

8. For those institutions which offer some instruction—disregarding those offering no instruction—the median number of semester hours of training offered is about 1.05.

Conclusion

Instruction in semantics and logic should be a part of teacher education. Such instruction would help teachers to be more capable of: (1) assisting students to improve their critical thinking and (2) performing the logical and semantic operations called for in the act of teaching.

The conclusions reported above suggest that for the most part teachers are not receiving instruction in semantics and logic.

Although it was not the purpose of the original study to determine what corrective action should be taken or even to make suggestions for action, a few suggestions are offered at this point.

As teacher education becomes more adequate, it will need to be extended. One way of including logic and semantics in teacher education programs would be to persuade philosophy departments to provide appropriate courses. Content for such courses should be drawn from deductive logic, inductive logic, semantics and language analysis, and some aspects of philosophy of science.

Another action which might advance the methodological sophistication of prospective teachers would be to provide them with instruction in the methodology of the subjects they are to teach. It seems reasonable to expect that a history teacher could better perform the logical operations involved in teaching history if he were acquainted with historical method, interpretation, reasoning, and what is called philosophy of history.[6] Further, if teachers are in command of the criteria used to accredit content in the subjects they teach, they are likely to be in a better position to assist students to improve their critical thinking while pursuing the subject.

In addition, the professional program in teacher education should include what B. Othanel Smith has called courses in educational logic.[7] Such courses would help prospective teachers to conceptualize the principles underlying such teaching acts as prescribing, defining, explaining, justifying, proving, and verifying. Further, using typical classroom activities, events, and instructional materials, prospective teachers would be helped to improve their own ability to perform these teaching acts. Professor K. B. Henderson has developed a course somewhat along this line at the University of Illinois.[8]

If teacher education programs should include instruction in semantics and logic, then it should be of concern to persons responsible for teacher education to have information regarding the current status of such instruction. Such information would be needed to judge whether the current status were adequate, and, if not, what corrective actions might lead to a better state of affairs.

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[6] Paul Komisar, "Pedagogical Knowledge and Teacher Education," *Proceedings of the Fifth Annual Meeting of the Philosophy of Education Society* (Lawrence, Kansas: University of Kansas Press, 1959) p. 15-22.

[7] B. Othanel Smith, "Logic, Thinking, and Teaching," *Educational Theory* 7:225-33; October 1957.

[8] K. B. Henderson, "Unusual Departures in Teacher Education: A Course in Principles of Secondary Education," *Improving Instruction in Secondary Education*, 37th Yearbook of the Association for Student Teaching (Cedar Falls, Iowa: the Association, 1958) p. 67-87.

Helen E. Virjo

An Eleven-Point Revolution in Elementary Teacher Education

NEVER before in the history of mankind has there been such widespread thought, effort, and material resources focused on the improvement of education as is evident in the United States today. All segments of society—from the individual layman to the federal government—are involved.

Private foundations and the federal government (under the National Defense Education Act of 1958) are expending huge sums of money for educational research, fellowships, and scholarships. State governments, local communities, and citizens committees are probing deeply into their human and financial resources to effect improvements in education. Universities, colleges, and professional education groups and organizations are critically scrutinizing their policies, practices, and purposes in order to mobilize their forces for the bold and vigorous action needed in meeting the challenges ahead. All levels of education —from the elementary school through the doctoral programs of graduate schools— are girding themselves for sweeping changes.

This is as it should be. The entire American educational structure needs not patching up, but creative redesigning and rebuilding into a functional, effective, and flexible form based on a solid foundation of the findings of reliable research, study, and experimentation. Educators need to frankly face up to acknowledgement of the difference between what is substantiated fact based on research and what is pure opinion or habit in educational theory and practices.

In approaching the problem of improvement of education at the elementary level, certain basic assumptions must be recognized: (1) despite the crying need for more classrooms, more equipment, and smaller classes, the greatest single determining factor in the teaching-learning situation is the effectiveness of the teacher; (2) most elementary-school teachers are not as effective as they should be and a wide gap exists between the theories they have learned and their teaching practices; and (3) much improvement is needed in the education of elementary-school teachers.

The curriculum in teacher education institutions has grown almost at random through pressures of expediency, course upon course, in isolated two-hour units. The result has been a lack of ordered sequence and considerable overlapping and duplication of content.

It is almost incomprehensible that even though almost 50 years have passed since John Dewey enunciated his problem-solving "five steps of reflective thinking,"[1] only now is this process being implemented in planning for teacher education. This may be attributed to the usual "geologic haste" with which educators have put new ideas into practice

[1] John Dewey, *How We Think* (Boston: D. C. Heath and Co., 1910) p. 72.

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in the past. Now, however, many promising attempts at improvement are being made in teacher education institutions around the country. We are rapidly moving closer in practice to the "cutting edge" of educational ideas.

Controversial Issues

New trends bring with them controversy and often confusion. Some of the questions being asked concerning the education of elementary-school teachers are as follows:

1. Can the essential competences of a good teacher be defined and observed?
2. Is it "better to start a teacher out with heavy emphasis on practical experience . . . than by a thorough exposure to theoretical frameworks and principles"?[2]
3. Is it necessary to teach *for* integration and application?
4. Would better outcomes result if college instructors considered the principles of the learning process and the individual differences of their students in planning their instructional procedures?
5. Should student-teaching be begun earlier in the preservice preparation?
6. Is it necessary to revamp education courses in order to eliminate duplication and overlapping?
7. Can a better sequence of courses be effected?
8. Should internship be an essential part of teacher education?
9. Should a laboratory school be a part of each teacher education institution?
10. Should a fifth year be added to the initial training period?
11. How can the gap between theory and practice be minimized?
12. How can better articulation and co-operation be achieved between the teacher education institution and the directing teachers in the field?
13. How much and what kind of general education is essential for the elementary-school teacher?

Before any decision is reached concerning the addition of a fifth year to the initial teacher preparation period, it would seem reasonable to first assess the effectiveness of the existing four-year programs. Is the time of the student being utilized educationally as efficiently as possible? Could not as much advancement be achieved by condensing, refining, intensifying, and goal-focusing the existing courses, such as by adding another year of "more of the same"?

Professional Needs of Elementary-School Teachers

In exploring this topic certain needs in the professional education of elementary-school teachers stand out with glaring clarity. Efforts to meet some of these needs are being made in some teacher education institutions.

1. *Essential teacher competences should be spelled out in observable, behavioral terms.* It is necessary that a clear specification of the desired product be drawn up before making plans for teacher education in an institution. Many studies have been made which indicate that this is not an impossible task.

> The hypothesis that competences needed by elementary-school teachers for quality job performance can be theoretically identified has been substantiated.[3]

An excellent example of this type of specification is the one by the Teacher Training Commission of the California Teachers Association[4] in which teacher competences and responsibilities are

[2] Asahel D. Woodruff, "Problems in Improving Teacher Education," *Journal of Teacher Education* 9:245; September 1958.

[3] Ishmael Utley, "A Theoretical Competency Pattern for Elementary Teachers" (Unpublished doctoral dissertation, University of Tennessee, 1958).

[4] Commission on Teacher Education, California Teachers Association, *Teacher Competence, Its Nature and Scope* (San Francisco: the Association, 1957).

categorized under six essential roles: (1) director of learning; (2) counselor and guidance worker; (3) mediator of the culture; (4) link with the community; (5) member of the staff; and (6) member of the profession. Under each of these roles specific competences are described and stressed in terms of *observable behavior*. For example:

> Competence in respect to pupil motivation might be observed at any one of these three levels:
>
> 1. *Theoretical:* Ability to explain the importance of pupil motivation in learning.
>
> 2. *Planning:* Ability to draw up a lesson plan providing for appropriate pupil motivation.
>
> 3. *Behavior:* Demonstration of ability to develop effective pupil interest in a class activity.[5]

The development of this kind of definition of teacher competences when done co-operatively by local training schools, professional organizations, and school systems, can provide a common frame of reference for important decisions. It can be used not only in intelligently planning teacher education, but also in recruitment, selection, retention, certification, placement, evaluation of programs, self-evaluation of teachers, and in in-service training.

The aforementioned California definition of teacher competence has been accepted and adopted by the entire Western College Association and is used in accreditation procedures of teacher education institutions in the western states.

2. *A decision must be reached on a definite order for the development of these competences so that a genuine learning sequence can be established.*

The emphasis placed upon the behavioral aspects of teacher competences is crucial and leads us on to the next logical "need."

[5] *Ibid.*, p. 12.

3. *Courses should be designed to provide a direct-line follow-through from theory to practice in the development of each specific competence.* This calls for radical reorganization. Instead of separate courses of theory, methods, and student teaching, each course should be allocated the responsibility for development of certain competences. Each competence should be developed from theory through methods to direct performance ability. Obviously, actual classroom experiences are necessary. Whether these experiences are provided more conveniently in a laboratory school or a field school will depend on the individual situations.

4. *If field schools are used, it is important that closer co-operation be secured between the training school and the directing-teachers in the field.*

In developing better orientation and co-operation between college supervisors and the directing teachers in the field, many fine ideas that are being tried out have been reported.[6] Directing teachers are carefully screened, selected, oriented, and well compensated. They are considered honorary members of the college faculty and are given such privileges as free use of college resources: libraries, audio-visual aids and equipment, laboratories, tuition-free extension courses in the areas of their teaching, and tickets and invitations to college affairs. Better articulation is being promoted by formal and informal meetings with college supervisors on and off campus, training workshops, and participation in the co-operative development of student-teacher handbooks and evaluation instruments. Directing teachers are given added status by inclusion of their names in the college catalogues.

[6] Harold Van Winkle, "Public Relations and Cooperating Teachers," ("What's Happening in Teacher Education") *Journal of Teacher Education* 10:125; March 1959.

5. *Student teachers' classroom experiences should begin when formal teacher education begins.* Classroom observation with gradually increasing participation in the teaching activity should be concurrent and integrated with course work at the college from the very beginning—the relationship should be lateral. In this way, the student would observe and act as a teacher's aide at first, and later assume more responsibility as competences develop. The college supervisor and directing teachers would maintain close contact and good communication with each other with information and suggestions flowing both ways. In the earlier stages students could develop their skills by work with individual children or small groups from the class, steadily growing in ability to handle larger groups effectively, and gradually spending longer periods of time in the classroom. Ideally the student would work with one group of children and the same directing teacher for an entire year before moving to another classroom situation.

This type of supervised and logically promoted growth in work with children would be much more beneficial than the incidental learnings hoped for in the usual 100 hours of experience with scouts or Sunday-school classes.

6. *Emphasis on the evaluation of accomplishment in professional-education courses should be shifted from verbal evidence of knowledge and understanding (tests and term papars) to demonstration of the ability to apply knowledge effectively in concrete situations (observation of teaching competence in the classroom).* In other words,

> To evaluate a teacher preparation program, we must be able to specify what the candidates are able to do after completing it that they could not do before.[7]

[7] Lucien B. Kinney, *Measure of a Good Teacher* (San Francisco: California Teachers Association, 1952) p. 8.

7. *It would be most desirable for prospective teachers to have four years of actual student-teaching classroom contact.* Lack of sufficient experience as student teachers in elementary preservice training has been one of the most frequent complaints of new teachers and is cited as one of the chief causes of first-year difficulties.

With the proposed plan of radical reorganization of professional courses into lateral play between college and field school, and between learning theory and practical experience, over a four-year span, internship seems hardly necessary.

Incidentally, interesting studies can be made of how transfer is effected between theory and practice, the identification of barriers to the process, critical teacher personality factors, and what personality traits are adaptable to change by education.

8. *In general, college instructional procedures need to be improved.* Most college instructors have proceeded too long on the assumption that college students have reached an intellectual maturity which minimizes the importance of instructional procedures. The following statements by students emphasize the need for better college-level instruction:

> College instructors should practice on us what they preach, thereby showing us some "hows" instead of so much "it says."[8]
>
> Why don't college teachers teach us in the same way they tell us we are to teach others?[9]

Some studies have uncovered evidence which indicates that how teachers are *taught* influences how they will *teach:*

> The use of audio-visual equipment and materials by faculty members during their

[8] M. Ray Thomas, "What Teachers Say About Their Training," *Educational Administration and Supervision* 43:257; November 1957.

[9] Willis Pratt, "Can College Teachers Improve Instructional Practices?" *Journal of Teacher Education* 9:249; September 1958.

undergraduate training definitely influences use of these aids by teachers in the field.[10]

This fact, of not practicing what they preach, on the part of many college instructors, coupled with the evidence of the influence their teaching methods exert on the methods used by their students in the field, may to a large degree explain the existence of a gap between theory and practice in the classroom behavior of elementary-school teachers. What the explanation is for the gap in regard to these college instructors would make an interesting study.

Certainly in the process of making more efficient educational utilization of the student's time during his four years in training, not only does course content need to be condensed, refined, intensified, and better goal-focused, but instructional procedures in college need the same type of revitalization and redesigning. College instructors, as a group, can no longer afford to ignore and violate known principles of the learning process, consideration of individual differences, needs, motivations, co-operative planning, and the use of a cross-media approach to instruction through enrichment of learning by audio-visual materials and activities.

9. *It is necessary to teach "for" integration of knowledge and learning.* There is general recognition of the fact that in the majority of cases compartmentalized areas of learning remain compartmentalized. The natural integration expected does not usually take place. Recognition of this fact is indicated by the prevalent trend towards consolidating related areas of knowledge into larger units or "blocks" of learning.

In professional education integration of education courses into larger units is being effected in many teachers colleges. Activity-type seminar and workshop classes in "blocks" of 15 credit-hours each are programmed at such schools as Chico College, California; Concord College, West Virginia, and the University of Miami in Florida.

The same trend is in evidence in a "core program" developed at Appalachian State College, Boone, North Carolina, in which seven formerly separate education and psychology courses have been combined into a one-year, 18 credit-hour unit. Herbert Wey says of this program:

> This type of organization helps eliminate duplication of material and gives one instructor enough time with a given group of students to minister to their individual needs.[11]

A core program provides more opportunity for college instructors to implement better instructional procedures. Smaller numbers of students are assigned to each instructor for longer periods of time, with greater latitude of content and the possibility for greater variety in activities. Under such a set-up better diagnoses can be made of the needs, interests, motivations, and abilities of individual students. Co-operative planning is possible and goals and purposes can be better defined and achieved.

10. *The general education of elementary-school teachers should cut across all fields of knowledge to give a broad, comprehensive view of the human scene.* In this attempt, material in the physical and social sciences, arts, literature, and foreign languages would be carefully selected on the basis of the priority of those things which are important,

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[10] Maurice B. Camp, "Some Factors Related to the Utilization of Audio-Visual Materials with Suggestions for Teacher Preparation in This Area," *Dissertation Abstracts* 18:155; January 1958.

[11] Herbert Way, "The Core Program in Teacher Education," *Journal of Teacher Education* 9:252; September 1958.

crucial, and of permanent value. Attention would be focused on attaining a firm grasp of the large basic concepts in each area, and of understanding thoroughly the processes involved.

The trend in general education, also, is toward the creation of large units of learning and core programs.

At Danbury State Teacher's College in Connecticut the core program reaches towards the ultimate limits in integration. *All* fields of knowledge in general education are combined into one four-year core course called "Monuments of Culture." This sequence

> . . . examines great creations of man's intellect in a variety of fields: religious, the *Koran;* architectural, the Parthenon; literary, the *Divine Comedy;* ecological, cultivated cereal grasses; political, the *Communist Manifesto;* artistic, Picasso's "Girl Before a Mirror"; and scientific, the dynamo and Newton's *Principia.* . . . Each of these "monuments" (dictionary definition, "a work of enduring value or significance") is used as a concrete artifact whose sources in, and relations to, the civilization which produced it are the objects of study in a unit lasting an average of seven weeks.[12]

[12] F. W. Lowe, Jr., "Breadth and Depth in a New General Education Program," *Journal of Teacher Education* 10:56; March 1959.

By developing such a broad base of general education in the undergraduate years the many fields of knowledge are opened to further specialization and advanced study in graduate work. The breadth need not be an excuse for a lack of depth, for depth can be provided by refinement and intensification of content, and can be pursued further in in-service work and by advanced study.

11. The writer recommends the following four-year curriculum designed to provide both longitudinal as well as latitudinal dimensions: *(1) four years of a core program of general education; (2) four years of one modern foreign language; (3) four years of a core course in professional education; and (4) four years of classroom experience as a student teacher.*

With all the resources of knowledge, research, and creative intelligence focused on the refinement, condensation, and intensification of course content and instructional methods into a pattern of logical sequence in learning, tremendous results in educational improvement could be achieved in the preparation of elementary-school teachers.

Who Shall Hold a License?

All persons should be licensed who serve in an educational capacity as professional personnel in an organized school or institution of higher learning in a state system of education or in a private educational institution providing a parallel or corresponding educational service.

The state, in assuming the responsibility to provide educational opportunity, assumes an obligation for the quality of educational service. Since the purpose of the license is to guarantee to the public that the holder is prepared and competent, it is a proper exercise of state responsibility to provide for licensure of professional personnel in private, as well as public, elementary and secondary educational institutions. For like reason, it is justifiable for licensure to be required of professional personnel in institutions of higher learning which are provided by the state or its subdivisions and for professional personnel of private institutions which are performing corresponding educational functions.—NEW HORIZONS IN TEACHER EDUCATION AND PROFESSIONAL STANDARDS, *A Preliminary Report (Washington, D. C.: National Education Association, National Commission on Teacher Education and Professional Standards, 1960) p. 22.*

Sister Eugenia Marie Golden

A Sociological Experiment for Student Teachers

IS IT essential for teacher education institutions to prepare students to face reality? Is it necessary for students to get beyond the realm of theory and into the arena of practical experience? Should there be a professional course requirement to fulfill this need?

Mercy College says "Yes."

It is well known that most of the students at Mercy College have graduated from private high schools or from diocesan parachial high schools in which they have studied *about* housing shortages, slum areas, labor issues, problems of suburbia, and family crises. They have heard about the "shook-up generation" but they have had little or no actual contact with the rival gangs of large cities. Indeed, they have seldom met children whose families must, of necessity, cope with forces impinging directly upon their unity, congeniality, and integrity.

With the realization, then, that the majority of the student teachers here at Mercy have been reared in a decidedly "protected" atmosphere, one course in the college curriculum, entitled "Historical, Philosophical and Sociological Foundations of Education," was designed to confront them with the educational problems resulting from economic, racial, religious and nationality factors. Because most of them will accept positions in the city schools, it was deemed imperative that they learn something about prevailing tensions. It was decided that the class would undertake sociological surveys of eight school districts, ranging from the very low to the very high economic brackets. Parochial, private, and public schools were visited.

In an introductory lesson the preliminaries were discussed and possible suggestions were formulated into a tentative plan. This plan was three-dimensional: the first dimension had to do with class organization, the second, with on-the-spot study and investigation, and the third, with a summary and evaluation of the total project. The initial steps involved dividing the class into groups; selecting a school district; spelling out objectives; compiling a bibliography; and setting up a plan indicating places to be visited, persons to be interviewed, and information to be acquired. Although each group prepared an individual draft, they all generally followed the same pattern. Following is a brief outline that served as a guide for one group visiting a parochial school.

Outline for a Sociological Survey

Purpose of the Survey. Our purpose in making this sociological study is to obtain an understanding of the social conditions and needs of people (especially Catholics) living within the boundaries of the parish, and how these conditions and needs affect the school.

I. Historical Background of the Area and the Parish.
   A. The proximate time of extensive settlement in the area.

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B. The time and circumstances of the founding of the parish.
C. The time and circumstances of the founding of the school noting the enrollment.
D. The type of families comprising the early parish (nationality, etc.).
E. The original parish boundaries.

II. Description and Identification of the Community Under Study.
A. The present geographical boundaries of the parish.
B. The peculiarities of this community which distinguish it from others (industries, etc.).
C. Nationalities, races, religions, and languages represented.
D. Population: total number; number of Catholics.
E. Population turnover and reasons for it.

III. Economic Status and Standard of Living.
A. Occupations.
B. Number of working mothers.
C. Extent of parents' education.
D. Average size of the families.
E. Conveniences and appliances in the home: (1) automobiles; (2) televisions; (3) radio sets; (4) deep freezes; (5) electric sewing machines; (6) electric or automatic washers and dryers; (7) electric mangles; (8) typewriters, etc.
F. Homes: (1) type (apartment, building project, etc.); (2) owned or rented; (3) average size.
G. Use of leisure time.

IV. Number, Adequacy, and Character of Social Agencies.
A. Public schools in the area.
B. Other churches in the area.
C. Playgrounds and recreational facilities: (1) youth "hang-outs"; (2) theaters; (3) bowling alleys; (4) pool halls; (5) taverns; (6) restaurants.
D. Library facilities (public and rental).

V. Youth Organizations.
A. Scout troops.
B. Parish and school clubs and activities.
C. Ball teams.

VI. Vital Statistics.
A. Birth rate.
B. Infant mortality.
C. Marriages and divorces.
D. Divorce.

VII. Public Health Conditions and Facilities.
A. Contagious diseases and epidemics.
B. Co-operation with the health department services.
C. Environment: (1) water supply; (2) sewerage and refuse disposal; (3) milk and food supply.

VIII. Housing, Planning, and Zoning.
A. Housing projects.
B. Adequacy, condition, and upkeep.

IX. The School.
A. Description.
B. Curriculum.
C. Staff.
D. Support.
E. Facilities (educational and recreational).
F. Parental assistance through clubs, etc.
G. Counseling.
H. Audio-Visual equipment.

X. Civic Agencies.
A. Voting.
B. Local government and participation.
C. Political organizations.

Implementation and Outcomes of the Project

The implementation of this plan necessitated the formulation of a questionnaire; correspondence with parents and diocesan officials; and interviews with the pastor, the principal, several of the teachers, the school nurse, an officer of the Youth Bureau at a specified precinct, a nurse at the Detroit Department of Public Health, a member of the Detroit Planning Commission, and librarians at the main branch of the public library and school libraries.

The questionnaire provided information on the education of parents, the average size of families, the number of

home owners, family income, autos and TV's per family, and the use of leisure time by members of the family. Graphs were constructed showing the number of playgrounds near the homes, the attendance of family members at movies, the types of movies enjoyed, the number of books in the home, the magazine subscriptions, and the use of libraries.

Many lively and informative discussions were held when class reports were given on the survey developments. Comments from the student teachers revealed an appreciation for this practical experiment in familiarizing students with environmental factors affecting the school. Some said they now realized the importance of economic status on the learning process and that they recognized differences not only between groups but within groups. More than a few felt they had gained enough confidence to carry on a similar project that might be initiated in graduate study. They learned firsthand about community resources that were available and the extent to which the school was making use of them. There was evidence of practical application of theory; they now saw the importance of human relations in the managing of the school.

This project lays no claim to scientific or statistical perfection but the over-all conclusions focus on the exceptional opportunities some of our citizens have to lead happy, useful, well-balanced lives while others, sometimes because of circumstances beyond their control, are forced to lead a life of poverty and frustration. For students it presents a challenge—for the future of the nation's schools is in their hands.

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Russell L. Trimmer

Student Teachers Talk Back

Secondary-education students express their views on the role of the co-operating teacher in the student-teaching program.

WHAT are the reactions of student teachers toward their co-operating teachers? This concern is of significance, for there seems to be very little doubt that the co-operating teacher holds a significant and enviable position in the teacher education programs of colleges and universities.

Assuming that the above thesis is accepted, it seems ridiculous that student teachers have not been given sufficient opportunities to express what they expect the role of the co-operating teacher is or should be. With this thought in mind, the author has polled the opinions of 351 secondary-education student teachers. The students were graduate students[1] doing their student teaching in grades 7 through 12. Table I indicates the number, sex, and assignments on the basis of the sex of the student teacher and the co-operating teacher.

Students at the end of their student-teaching experience were asked to make some assessment of their co-operating teachers. They were asked to respond to the following question: "Why would you recommend or not recommend that your co-operating teacher be asked to serve again?" To facilitate handling the data and also to limit them, one three-by-five-inch card was given to each student teacher.

The cards were separated according to (1) the number of complete rejections and (2) sex differences. Table II reveals that out of 351 assignments only 31 were completely unsatisfactory.

The data in Table II, when converted to per cents, indicate that there is very little difference when considering the four variables of sex. The inference could be drawn that when a co-operating teacher is inadequate, conflicts arise no more often in male-female situations than they do when the sexes are the same. Apparently, the conflicts arise as a result of the co-operating teacher's insensitiveness to the needs of the student teacher.

Deficiencies of co-operating teachers in order of frequency as noted by student teachers are as follows: (1) "lack of constructive criticism"; (2) "no regular conferences"; (3) "never allowed control of the class"; (4) "no suggestions as to methods and techniques"; (5) "freedom but no guidance"; (6) "lack of organization"; (7) "rigidity"; (8) "not frank in criticism"; (9) "poor attitude toward pupils"; and (10) "inflexibility in teaching methods." Many of these deficiencies are of the kind which could be readily corrected through the co-operation of the student teacher, co-operating teacher, and college supervisor. The unfortunate aspect of this problem seems to be that

[1] This teacher education program was conducted entirely at the graduate level. All students had earned a baccalaureate degree.

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TABLE I
NUMBER AND SEX OF STUDENT TEACHERS AND RELATIONSHIP OF SEX OF STUDENT TEACHER TO SEX OF CO-OPERATING TEACHER IN STUDENT TEACHING ASSIGNMENT

No. of Male Student Teachers	No. of Female Student Teachers	FST–FCT[a]	FST–MCT[b]	MST–MCT[c]	MST–FCT[d]
253	98	54	44	162	91

[a] Female student teacher—female co-operating teacher.
[b] Female student teacher—male co-operating teacher.
[c] Male student teacher—male co-operating teacher.
[d] Male student teacher—female co-operating teacher.

teachers who have some of the deficiencies noted above were allowed to serve as co-operating teachers. The problem then reverts to one of selection of co-operating teachers. However, that part of the problem appears to stem from the lack of communication between the co-operating teacher and the teacher education institution. Co-operating teachers, in order to meet their responsibilities, need to have special preparation.

That the problem is one of selection and preparation can be verified, to some extent, if one inspects the comments made by student teachers. The list of negative comments (in the exact wording) of student teachers about co-operating teachers is as follows: "authoritarian"; "too new at teaching"; "unhappy with teaching"; "too busy"; "absent too much"; "lack of subject-matter control"; "poor disciplinarian"; "rubs people wrong way"; "too easy or informal"; "overuse of sarcasm"; "doesn't practice what he preaches"; "subject to last-minute changes"; "assigns 'dirty work' "; "too smug in offering suggestions"; "taught only for the bright"; "no help in planning"; "too easily pleased"; "poor attitude toward students"; " 'cold cookie' "; "doesn't know what she wants"; "inconsistent"; and "hard to get along with." The reader should keep in mind, however, that the comments are only personal opinions and reactions of students.

On the basis of the limited amount of evidence gained in this study, the following recommendations and/or conclusions seem to be in order:

1. Approximately 10 per cent of the co-operating teachers were satisfactory.
2. The variable of sex of the co-operating teacher and student teacher plays no significant role in evaluating the effectiveness of the co-operating teacher and/or student teaching experience.
3. Student teachers are anxious to know their deficiencies.
4. Student teachers want supervision.
5. Student teachers also want an opportunity "to be on their own."
6. Selection of co-operating teachers needs to be done more carefully.
7. Special training for co-operating teachers would be advisable.

TABLE II
THE VARIABLE OF SEX AND ITS RELATIONSHIP TO NUMBER OF UNSATISFACTORY ASSIGNMENTS

Sex	No. of Assignments	No. of Unsatisfactory Assignments	Per Cent
MST–MCT	162	12	8.7
MST–FCT	91	10	
FST–MCT	44	4	9.1
FST–FCT	54	5	

Leslie W. Ross

Some Aspects of Soviet Education

SINCE the launching of Sputnik I and the subsequent Russian space adventures which followed that momentous event, American interest in Soviet education has been reflected in the public utterances of a number of journalists, educators, statesmen, scientists, politicians, reporters, and scholars. Several of our national leaders in these professions base their comments on trips made to the Soviet Union within the last two or three years. They have uniformly come away tremendously impressed with the educational activities they have observed there.

It is significant that Soviet interest in American education is nearly equal to our interest in theirs. President Hatcher of the University of Michigan, upon his return from a recent trip to Russia, said of the Soviets:

> The country whose dedication to education has been their inspiration is the United States of America.[1]

> The progressive ideas of the followers of John Dewey apparently were rather widely practiced in Russia in the twenties and early thirties.[2]

We in America for the last two decades have witnessed a considerable focusing of emphasis on the general education movement. Although this movement has been variously defined, it is usually agreed that general education consists of that knowledge which "all men should have." In this paper I shall try to examine, among other things, the degree to which Soviet education is providing those concepts which are referred to as general education in this country. The reader should bear in mind that Russian education is historically patterned more nearly after continental European models than after American, and that in the European scheme general education as we know it is centered almost entirely in the pre-university experience of the student.

The Soviet Educational Structure

In looking at the structure of Soviet education, we must first recognize that a program of school reform, to be implemented over a five-year period and designed to lay more emphasis on practical training, was initiated in the fall of 1959. In terms of structure, the major effect of the reform legislation (enacted on December 24, 1958) will be to add one year to the seven- and ten-year schools described below. At the present time, because of the recency of the new policy, we can only describe the system which has most recently obtained, and use this as a basis for evaluating the projected changes as they develop. Early reports indicate that full realization of these changes will take some time. Further discussion of the reform legislation appears later in this paper under "Current Reform."

Education in the USSR is centered around a ten-year elementary-secondary program which is organized on a 4-3-3 basis. There are schools of three types: four-, seven-, and ten-year schools. There is a standard program of studies for all students in the entire Soviet Union (with a few minor concessions in terms of regional languages and literature), so that every student is studying the same subjects in every grade of the ten-year

[1] Harlan Hatcher, "Our Soviet Neighbors," Speech delivered at the University of Michigan, Ann Arbor, May 21, 1959.

[2] George S. Counts, *The Challenge of Soviet Education* (New York: McGraw-Hill, 1957) p. 60-68.

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system. This is true regardless of whether the school is a four-, seven-, or ten-year school; there is complete compatibility between schools for any grade-level and for any region of the Soviet Union.

The Soviets maintain that they have achieved universal, compulsory, seven-year education, and in recent years they appeared confident of raising this to the ten-year level by 1960. Interpretation of the new school-reform program for 1959-1963 indicates, however, that the latter goal has been abandoned in favor of compulsory eight-year education, with secondary schooling to be completed on a voluntary basis.[3] Certain curricular changes will also be made in the elementary and secondary schools.

Students who complete the ten-year curriculum are eligible to take the university matriculation examinations (except certain high-honors students who are excused). Students who complete the ten-year or seven-year curriculum may go into a *tekhnikum,* from which the outstanding students may after four years apply for admission to an engineering institute.

There are various other kinds of schools—labor reserve schools and agricultural schools—which will not be discussed here since they are essentially vocational in nature.

The higher-education system consists of 33 universities, plus 732 specialized higher-educational institutions, variously known as institutes, academies, higher schools, and conservatories. There are also an undetermined number of military, security police, and Communist party schools.[4]

In the Soviet Union, the general education of youth takes on forms which are much different from those in the United States. It should be constantly remembered, in any study of Soviet education, that there is a totality of effect of the various curricular and extra-curricular influences on the student which is not easily perceived from a separate examination of each of these influences.

Thus, all the aspects of Soviet education which are discussed in this paper may be considered to be facets of the system of general education. The goal is to mold the ideal Soviet citizen, and considerable effort is expended by the state to do this systematically and efficiently.

Objectives of Soviet Education

Much can be learned and much can be understood about Soviet education in the process of a careful examination of its objectives. Just as we in the United States have certain hoped-for learnings which we believe all pupils should attain, so the Soviets have developed purposes for general education.

The difference between American and Soviet purposes centers on three factors. First, in the Soviet Union there is a quite different concept of the knowledge essential to every human being and the kind of individual the educational system is trying to produce; secondly, there is a marked difference in the degree of individual freedom permitted in the choice of subject matter; and thirdly, there is a vast difference in the ideology which underlies each structure.

The place of the individual and the knowledge that he should have are viewed entirely in terms of state needs in the Soviet Union. The state is all that counts in Soviet life, and education is considered the prime agency for accomplishing the state's goals in the planned Soviet economy. The following citation reveals the determination behind this concept:

> The purpose of Soviet education is "the training of educated, thoroughly developed, active builders of a communist society."[5]

The reaction of one American observer to this objective is as follows:

> It is not the individual around whom the educational system is built, but the state, which, by identifying itself with pursuits of the common good, attempts the ruthless subordination

[3] William K. Medlin, "Appendix B—Soviet Educational Reorganizations for 1959-1963," in United States Department of Health, Education, and Welfare; Office of Education, *Soviet Commitment to Education* (Washington, D.C.: Government Printing Office, 1959) p. 132.

[4] United States Department of Health, Education, and Welfare; Office of Education, *Education in the USSR* (Washington, D.C.: Government Printing Office, 1958) p. 185.

[5] "How Russia Does It," (London) *Times Educational Supplement,* November 29, 1957. p. 1520.

of the individual—his rights, tastes, choices, privileges, and his training—to its own needs.[6]

It is difficult for Americans to understand the total grip which the Soviet state has on the individual, and it is this basic problem that accounts for much of our misunderstanding of this system. In education all details of the educational system are predicated on this cornerstone of Soviet life. All observers, unless they have some reason for bias, have recognized and admitted the primacy of this facet of Soviet education. When this influence is fully appreciated, other observations of the educational system take on a different cast.

A second distinguishing feature of the Soviet system is the determinism of the state in setting forth the curriculum which the student must follow. There is little or no individual freedom of choice of subject matter. The Russian rulers believe that any kind of waste motion or inefficient activity is, in effect, an act of treason against the state. Thus the state has determined in great detail what its needs will be in various occupations and it looks to the educational system to produce the requisite individuals in the proper numbers and with the proper training.

While this concept is quite incomprehensible in the United States, it is, nevertheless, one of the dominating features of Russian education, and from it, obviously, stem a whole chain of effects on institutions and students. The impressive Soviet successes in science and technology can be almost entirely attributed to this planning of the kind and degree of training which students will receive. The effect of this kind of thinking on the curriculum will be examined later.

Two more observations should be made at this point. First, the Russians are not only training scientists and technologists for their own needs, but they are admittedly training them for export to aid underdeveloped countries and, of course, to eventually draw such countries into the Soviet bloc. The machine aspects of the system are thus all the more apparent, since there is an avowed belief in the economic superiority of Russian communism.

We must also realize that an important objective of the Soviet educational scheme is to provide for women essentially the same opportunities which are available to men. The U.S. Office of Education reports that women constitute about 80 per cent of education students, 60 per cent of medical students, and 30 to 40 per cent of technical and engineering students, in semi-professional and higher education programs.[7] Women engage actively in almost every phase of Soviet life, including barbering, road repairing, and various heavy trades. Again the orientation is from the viewpoint of the needs of the state—a worker is a worker regardless of whether male or female. The Russians feel compelled to bend every possible effort toward tangible achievement in the area of industrial and agricultural production.

There are, finally, tremendous ideological differences between the United States and the Soviet Union. Russia is ruled by the Communist party according to principles of Marxist materialism. The influence of ideology on the Soviet youth will be examined later in some detail under the heading of "Indoctrination." Something of its scope can be grasped from this statement which appeared in the (London) *Times Educational Supplement:*

> The whole process of Soviet education from kindergarten to university is based on Marxist materialism and dominated by the conception of producing a young Communist—submissive, disciplined, and unquestioning.[8]

The Curriculum

The goals of any educational system can only be achieved through the curriculum and the dominant interests of the groups which control education will be reflected in the kinds of curricula which they produce for their schools.

In the Soviet Union there is no exception to this rule. We have already seen how the needs of the state are the all-important fac-

[6] Nicholas DeWitt (National Science Foundation), *Soviet Professional Manpower* (Washington, D.C.: Government Printing Office, 1955) p. 1.

[7] United States Department of Health, Education, and Welfare, *Education in the USSR, op. cit.* p. 16.

[8] "Soviet Educational Structure," (London) *Times Educational Supplement,* November 20, 1953. p. 981.

tor in determining educational policy. The influence extends directly to the school curricula.

The reform legislation recently enacted is a reflection of state concern over the curricular content of the Soviet schools. There has been a growing awareness on the part of the state of a central shortcoming in the ten-year schools: they have been training too many youngsters in the academic pre-university line and too few in the vocational and industrially oriented lines of education.[9] The intent now is to insert into the curriculum more direct emphasis on vocational training and the educational advantages of physical labor, and to extend the seven- and ten-year schools by one year to accommodate these changes. Since the details of the anticipated curriculum changes are as yet unclear, we can only judge what the new school is going to be in terms of what we know has been the case of the ten-year school.

The uniformity of curricula in the ten-year elementary-secondary education of all Soviet youth has two main bases: (1) it facilitates the movement of families with children, thus increasing worker mobility, and (2) it expedites state control over the entire educational machine.

We might add that it also makes it easier for outsiders to study and evaluate their educational system, and this point applies particularly to the context of this paper. In trying to determine what knowledge is deemed important enough to be imparted to all youth of a country, we can make some interesting observations on those things that the country honors most.

In Russia, we find that mathematics, the sciences, and languages have a major place in the curriculum. Table I depicts the universal ten-year curriculum of the Soviet schools.

Six significant features of the ten-year curriculum have been succinctly summarized by Counts:

> In the first place, all children follow the same curriculum from the first grade to the tenth, except for differentiation between the sexes in the realm of military-physical preparation and opportunity to choose among foreign languages, if two or more are offered in the same school. In the second place, all ten-year schools

[9] Medlin, *op. cit.* p. 127.

TABLE I
CURRICULUM FOR SOVIET ELEMENTARY AND SECONDARY SCHOOLS[a]

	Number of Class Hours Per Week										*Total Hours*	
Subject	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*Week*	*Year*
Russian Language and Literature	13	13	13	9	9	8	6	5	4	4	84	2,772
Mathematics	6	6	6	6	6	6	6	6	6	6	60	1,980
History				2	2	2	2	4	4	4	20	660
Constitution of USSR										1	1[b]	33
Geography				2	3	2	2	2	3		14	462
Biology				2	2	2	3	2	1		12	396
Physics						2	3	3	4	4	16	528
Astronomy										1	1	33
Chemistry							2	2	3	4	11	363
Psychology										1	1	33
Foreign Language					4	4	3	3	3	3	20	660
Physical Culture	2	2	2	2	2	2	2	2	2	2	20	660
Drawing	1	1	1	1	1	1					6	198
Drafting							1	1	1	1	4	132
Singing	1	1	1	1	1						6	198
Labor	1	1	1	1	2	2	2				10	330
Practical Work (Agricultural Economy, Machine Operation, and Electro-Techniques)								3	2	2	7	231
Excursions												293
Total	24	24	24	26	32	32	32	33	33	33	293	9,962

[a] From George S. Counts, *The Challenge of Soviet Education* (New York: McGraw-Hill, 1957) p. 77.

throughout the Soviet Union teach the same subjects in the same grades, except the non-Russian schools in which the Russian language is taught as an additional subject from the third to the tenth grade inclusive. In the third place, the school year is long, ranging from 213 days in the first three grades to 230 in the tenth, and the school week embraces six days. In the fourth place, the curriculum emphasizes the native language, mathematics, and physical science. Morevover, according to the plan, the Soviet pupil is carried much further in mathematics and science than the American pupil. Though not stated in the table (Table I), mathematics includes trigonometry, as well as astronomy. And the study of physics and chemistry begins in the sixth and seventh grades respectively. Both science and mathematics are classified as "important subjects." In the fifth place, the study of foreign languages, usually English, German, and French, is taken very seriously. Instruction begins in the fifth grade. In the sixth place, systematic physical education is provided in all grades from the first to the tenth for the purpose of "cultivating such qualities in the younger generation as bravery, persistence and will." The reader should not forget those gold and silver medals shining and beckoning in the distance which open freely the doors to the higher schools.[10]

The concept of "polytechnic" education looms large in Soviet thought. The word recurs again and again in pedagogical writings, and takes on a certain aura of sanctity. It is considered very unwise to slander or otherwise try to retard polytechnic education.

There has been a long-standing policy that an essential part of every individual's education, boys and girls alike, is some first-hand training and experience in the manual arts. There must be a certain love for and devotion to manual labor in the breast of every Soviet citizen. This can best be achieved through the inclusion of a required block of labor and practical work in the universal ten-year curriculum. In addition, several kinds of institutions exist which are almost exclusively devoted to vocational or semi-professional education.

One of the most noteworthy differences between United States and Soviet education lies in the treatment of the liberal arts in higher education curricula. *Time* magazine reports:

> Quality aside, the big trouble with Soviet education is that in overemphasizing specialization, it is turning out a generation almost wholly ignorant of the sort of liberal arts education known in the West.[11]

In the Soviet Union the institutions of higher education, including the universities, have primarily a utilitarian and vocational orientation. Except for those students majoring in the social sciences or the humanities, there is little or no content in these areas provided for or required of the typical university student. At the University of Moscow, the faculties of philosophy, philology, economics, history, law, and journalism are still quartered in the old university buildings opposite the Kremlin. They lie six miles distant from the magnificent new University plant on Lenin Hills, where the sciences are housed. The program of each university student is almost completely taken up with courses in his specialty.

Indoctrination

Indoctrination in Communist ideology is an integral part of the general education of every Soviet student. This is freely admitted by the Communist officials and is quite obvious from an examination of some of the course materials. The Dodges reported that students seemed to be the most thoroughly indoctrinated group they met.[12] The intensity of this propaganda campaign is often underestimated by Americans. Lenin is quoted as follows:

> Everything that contributes to the building of a Communist society is moral; everything that hinders this is immoral and amoral.[13]

The student cannot escape the party-line indoctrination. Not only are the schools a vehicle for propaganda dissemination, but a whole host of publicity techniques are employed which are educational in effect. There is even a specific agency for this purpose:

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[10] Counts, *op. cit.* p. 76-77.

[11] "The One-Track Mind," *Time* 66:46; November 28, 1955.

[12] Homer and Norton Dodge, "Russia Gains Over U.S. in Educating Scientists," *U.S. News and World Report* 39:97; September 16, 1955.

[13] Counts, *op. cit.* p. 112.

Agitprop, the party apparatus dealing with agitation and propaganda, is "keeper of the sacred flame." It does not create the party line, but disseminates it, and is responsible for what one astute and knowledgeable observer, former Senator William Benton, calls the "most stupendous psychological manipulation in history." It maintains more than 6,000 schools, and has 375,000 full-time propagandists and agitators in the field. Each is armed with "scripture"—an 824-page book, called *Guide for the Propagandist and Agitator*.[14]

Mr. Benton also stated, after his 1955 visit to the Soviet Union, that "in Russia [the American] discovers that the rulers seek to convert the total culture into a giant propaganda apparatus."[15]

The evidences of the effects of the propaganda techniques on students are marked. Misinformation as to American accomplishments and intentions are particularly noticeable. Some observers have indicated that there has been a campaign to transfer much of the hatred for the Nazis to a similar intense hatred of Americans.[16] Even the phrasing of the questions asked American visitors reflects the Communist party's influence. These questions have a classic wife-beating quality, and are apt to go something like this: "When are you Americans going to stop your aggressive, warlike actions against our beloved country?" Thayer has observed:

> While the American government and private institutions have been training thousands of specialists on the Soviet Union, the Soviet Government has so far as I know not trained a single serious student in American affairs.[17]

John Gunther says:

> The Russians have the most formidable educational machine in the world, but they are also the most ignorant people in the world about affairs outside their own country.[18]

While indoctrination and education are theoretically quite distinct, the Communists have taken great pains to see that the textbooks used in the ten-year curricula reflect the proper party line. Most notorious has been the repeated re-writing of history texts to "correct" (or remove altogether) impressions given concerning the prowess of particular Russian leaders, or the role of the Soviet Union in history, or the successes of the Communist party on the world scene.

There is a feeling now that while the activities of the propagandists can have great and insidious effects in the presentation of social science materials, it is difficult, if not impossible, to insert doctrinaire materials into the study of mathematics or engineering or the physical sciences. The fact that it is these very subjects that the Soviets are now concentrating upon most heavily leads some observers to believe that the influence of party indoctrination must not be so pronounced as it has been in the past.

Even in areas such as history and political science, the effect of repeated changes in the party line has been detrimental to the effort to indoctrinate the youth of the country. The United States Office of Education[19] reports that many teachers have postponed or neglected as long as possible a thorough teaching of subjects where party shifts may occur, because they realize that by waiting until the eleventh hour, i.e., just before students are scheduled for the state examinations, they have a much better chance of teaching the materials in the manner in which they will be covered in the examinations. If this phenomenon occurs to any great degree, there must be a considerable loss of impact of the propagandizing materials. A further facet of this illustration is the fact that the evaluation of a teacher's success is based largely upon the success of his students in the examinations.

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[14] John Gunther, *Inside Russia Today* (London: Hamish Hamilton, 1958) p. 229.

[15] William Benton, "William Benton Reports on the Voice of the Kremlin," *The 1956 Encyclopedia Brittanica Book of the Year* (Chicago: P. F. Collier, 1956). Feature article, pages unnumbered.

[16] Merle Fainsod, *How Russia is Ruled* (Cambridge: Harvard University Press, 1958) p. 260.

[17] Charles W. Thayer, "I Found Russia Changed," *Saturday Evening Post* 228:158; April 14, 1956.

[18] Gunther, *op. cit.* p. 292.

[19] United States Department of Health, Education, and Welfare, *Education in the USSR*, *op. cit.* p. 87.

But there is no escaping the fact that the intent of the Communist party is to ideologically influence the mind of every school child through every possible avenue in the curriculum. Counts states:

> The process of education in Communist morality is highly complex. It involves every teacher, every subject, every pupils' collective, every worker, and the entire regimen of the school. Everything must be organized and administered for the purpose of achieving the common goal.
>
> The organization of instruction is particularly important. The way pupils study influences the development of conscious discipline and traits of will and character. Each subject has a special contribution to make in the shaping of attitudes, the acquisition of interests, and the forming of convictions. The roles of language, history, geography, and the sciences are fairly obvious. But even aesthetics has a contribution to make. "Understanding the beautiful," observes Kairov, "has an historical and a class character."[20]

The Youth Organizations

The Communist party has taken particular pains to establish a system for developing loyal party members from among the ranks of the youth of the country. While still in nursery school, youngsters can become Little Octobrists. From about age nine to 14, they may belong to the Young Pioneers. And from the more loyal of the Young Pioneers are selected the members of the *Komsomol*, or Young Communist League, which covers the age span of 14 to 26 years. There are about 20 million Young Pioneers, and about 18 million Komsomols.[21] (The total Russian population is a little over 200 million.) The transition from the *Komsomol* to Communist party membership is accompanied by a further screening process, so that only the most eligible and best proved candidates may become party members.

The activities of the youth organizations cover the whole gamut of extracurricular and cultural activities. The Komsomols and the Young Pioneers are among the foremost agencies in the field of political education. They also provide a sounding board for party propaganda and a gauge by which the party can measure the effect of its measures on the younger generation.

The attraction and significance of these very active youth organizations cannot be overemphasized. Through their constant program of youth activities, their "houses" and "palaces," and their direct ties to the Communist party, they have served to enlist the youth of the country in nationalistic causes and have provided an organized outlet for propaganda.

The youth organizations must indeed be considered as arms of the educational apparatus of the Soviet Union. They are avowedly educational in character and in operation, and their influence on impressionable youth is undoubtedly salutary from the Communist point of view.

Practical Matters

In their effort to achieve the optimum educational investment in each youth, the Soviet leaders have had to cope with several practicalities. In some cases, they have experimentally tried patterns which have later proved to be unwise. These efforts have nonetheless had an influence on the youth in the schools.

In 1943, for example, it was decreed that coeducation should be abolished and that separate schools should be operated for boys and girls. In 1954 this policy was reversed. That its implementation was never really accomplished in the period 1943-54 is attested to by this observation made by a visitor to Moscow in 1954, when coeducation was still taboo:

> It was startling to learn that in spite of the change in official policy, all but 2 per cent of schools and 12 per cent of pupils still have coeducation.[22]

Because of a serious shortage of school buildings, it has been necessary to operate schools on shifts, with sometimes as many as three shifts in a building. Several observers who have recently visited the Soviet Union have remarked, however, that there does not seem to be a shortage of teachers.[23] This

[20] Counts, *op. cit.* p. 129-30.

[21] Gunther, *op. cit.* p. 228.

[22] "Visit to a Moscow School," (London) *Times Educational Supplement;* April 16, 1954. p. 337.

[23] Lawrence G. Derthick, "The Russian Race for Knowledge," *School Life* 40:3; June 1958.

advantage undoubtedly can be attributed to the effectiveness of state planning in the direction of placing the required number of individuals into teacher education curricula.

Through the concentrated management of their resources, the Soviets have achieved a near-deification of education. Counts relates that the Soviet Union "has marshaled all the forces of organized education to achieve its purposes and advance toward its distant apocalyptic goals." He continues that it "has employed the full force of education to change the course of history and the nature of man."[24] President Hatcher has metaphorically likened the educational system to a great power plant, which the Soviets have felt they must build first in order for other things to follow.[25]

A great deal of popular support is accorded education. Estimates are that something like 7 to 8 per cent of the national income goes into education (vs. about 3 per cent in the United States). Collective farms and industrial plants lend direct support to the schools and often co-operate with them on a direct and intimate basis. In rural areas the school is often the center of the cultural life of the district.[26]

Perhaps the strongest coercion of Soviet youth is the incentive system which is used to draw him onward.[27] Great rewards lie in wait for those who diligently apply themselves to their studies. President Hatcher reported finding "the strongest incentive system I have seen anywhere."[28]

The pressures for academic success bear strongly upon the pupil. While repeated efforts will be made to help the child through his studies (e.g., he may repeat any year's work in the ten-year curriculum if necessary), there is a definite stigma accruing to the pupil and to his teacher if this occurs. There are thus subtle penalties attached to academic failure.

The Soviet youth who excels in academic pursuits will find his financial road quite easy, since the state takes a large part of the responsibility for his academic expenses. According to U.S. Commissioner of Education Derthick, the state pays stipends to approximately 80 per cent of the 1,100,000 full-time students in institutions of higher education. None of these students pays tuition.[29] Draft deferments are also available to those students who keep their studies up. While they must take some military training along with their regular academic pursuits, the prospect of continued deferment from active military duty again operates as a distinct pressure of the student to remain in school and to do as well as possible in his work.

Soviet Attitudes Toward Their Program

Informed Americans cannot help but observe that the heavy emphasis on scientific and vocational pursuits in the Soviet Union has dealt a body blow to the humanities and the arts. The curriculum depicted in Table I would certainly convey this impression, as would many outside observations made by students of Soviet society. The matter of individual acceptance of the large degree of regimentation in the Soviet educational scheme has also raised questions in American minds.

These questions have been equally obvious to the many Americans who have recently visited the Soviet Union, and several of them have inquired of Soviet citizens just what their attitudes are toward the general education program.

For example, President Hatcher reported that he raised the question of the neglect of the humanities and the arts with several Russian people with whom he came in contact. The answer, as we might expect, was an unqualified denial of the charge. The Russians reported that they actually accomplished more in these areas in their ten-year schools than the United States does in 12 years. They pointed out that much of the child's education in the humanities and the arts comes from his immersion in the total Soviet culture, under the guidance of his

[24] George S. Counts, "Soviet Education and Soviet Power," *Educational Digest* 23:2; September 1957.

[25] Hatcher, *op. cit.*

[26] Harry Milne, "The Challenge of Soviet Education," *Educational Digest* 23:2; March 1958.

[27] Fainsod, *loc. cit.*

[28] Hatcher, *op. cit.*

[29] Fred M. Hechinger, "U.S. Mission Finds Soviet Education Is Grand Passion," *New York Times*, September 6, 1959. p. 42.

superiors.[30] This extra-curricular activity includes an impressive program of visits to museums, libraries, concerts, and other cultural buildings and events. Visitors to the Soviet Union have reported seeing such student groups on tour frequently, and there is no reason to discount their educational value.

A statement by a leading Soviet educational official concerning cultural education resulted from an inquiry by the *Times* of London just after the launching of the Sputniks in the fall of 1957. The question was addressed to Mrs. Lyudmila Dubrovina, deputy minister of education of the Russian Republic, and her cabled answer is reproduced below. This rather extensive quotation is presented to show the influence of party thought and the general ambiguity of the statements:

Question: Has the Soviet Union's development of scientific studies led to any neglect of general cultural education?

Answer: The curricula of the Soviet schools are specially directed toward fostering general cultural education. In addition to mathematics, physics, chemistry, biology, the elements of production, and draughtsmanship, they provide for the study of those subjects which give the students a knowledge of the humanities, an aesthetic education, and a high standard of general cultural attainment. . . .

Education in the spirit of socialism has brought about radical changes in the spiritual and moral make-up of the Soviet people. They are imbued with the spirit of love and devotion to their socialist homeland. At the same time all racial or national prejudices are alien to them. In the spirit of humanism they are brought up to be cheerful and buoyant, to perform exploits in labor and science, and not to rest on their laurels. Thus the development of scientific research in the Soviet Union has not led, and clearly could not lead, to any neglect of general cultural education. For both are interdependent integral parts of the cultural and technical revolution accomplished in our country. They are two interconnected aspects of the process of cultural-political and scientific-technical growth towards carrying out mankind's age-old dream of building the perfect Communist society.[31]

The acceptance of regimentation is something which Soviet youth have come to accept quite routinely. Soviet youth wonder, in fact, why American youth are not quite displeased over their lot in having to pound the pavement to look for jobs after graduation. The University graduate in the Soviet Union is automatically assigned his first job after graduation, and he is expected to work at it for three years. This he accepts in good grace as a necessary part of the system which largely subsidized his education. This arrangement and the students' attitude of it has been compared to our military academy graduates, who also must agree to serve in the armed forces for a certain period of time after graduation.

Current Reform

One has only to dip briefly into Soviet educational history to recognize that many gyrations have taken place in policy and practice. Ideological changes have been responsible for much of the flux. The study of Soviet education is complicated by these shifts in the party line, for the educational system is of prime concern to party leaders and political shifts often result in educational shifts. The currency of observations on the Soviet educational system must always be questioned, since changes sometimes occur quite dramatically.

The latest major changes in Soviet educational practice are contained in a new law enacted by the Supreme Soviet on December 24, 1958, entitled "Law on Strengthening the Ties of School with Life and on the Further Development of the System of Public Education in the USSR."[32] Prior to the enactment of this legislation, there had been several indications of growing dissatisfaction with the Soviet educational plan. The criticism was first heard at the Twentieth Communist Party Congress in 1956. Read[33] and others confirmed the discontent observed during visits to the Soviet Union, and suggested some of the directions which reform might take.

The intent of the new law is to bring the schools "closer to life," and to require all

[30] Hatcher, *op. cit.*

[31] "Pyramid to Outer Space—The Educational Foundations," (London) *Times Educational Supplement*, December 6, 1957. p. 1551.

[32] Medlin, *op. cit.*, p. 126.

[33] Gerald Read, "The Big Reform in Soviet Education," *Phi Delta Kappan* 40:194-99; February 1959.

pupils to engage in "socially useful labor" during their school days. To accomplish this, the law contains provisions which will lead to an increased emphasis on polytechnic education for all youth. The criticism which ultimately led to legislative action centered mainly around the feeling in the Communist Party that some youth were becoming soft, that they were avoiding hard work, and that they were interested only in career berths in the white-collar occupations. Hechinger has reported that a further consideration behind the law was "an attempt to stop the massive rush to the universities and to provide instead more skilled manpower for technology on a level that does not require university training."[34]

The most significant provision of the new legislation is that concerned with extending the traditional seven-year school by one year, thereby establishing what is known in official terms as an eight-year "incomplete, general educational, labor, polytechnical school."[35] The one-year extension was apparently felt necessary to compensate for the increased amounts of work experience henceforth to be expected of school-age youth. The intent is to make this basic eight-year educational program compulsory and universal throughout the Soviet Union, with all youths (except the really gifted) expected to engage in some form of productive labor after graduation. Some changes will also be made in the curriculum as the conversion to the eight-year program takes place.

While the proposed eight-year education will constitute terminal education for many students, and is indeed so intended, there will be three types of secondary schools in which the youth may continue their education on a part-time basis, through evening and correspondence instruction.

One observer reports that "once the reorganization is complete the ten-year schools will be converted to eleven-year schools and a third of their work will be devoted to more sophisticated shop work and practical experience. . . . It seems that all the existing ten-year schools will stay in operation in the new format."[36] Presumably they will also continue to be the prime source of university matriculants.

Another type of special school should be mentioned. A system of secondary (eleven-year) boarding schools has been instituted which, it is predicted, will "continue to develop and expand until some two and a half million youth attend them in 1965."[37] Korol states that the boarding schools are visualized as a model for future developments in Soviet education.[38]

The boarding schools are thus a reflection of the attitude of the state toward the importance of the training of the young. Specifically, the importance attached to this kind of training has been observed to indicate that the influence of the father and mother on a child is often improper, i.e., contrary to the best over-all interests of the state. Thus the complete dominance of the idea that the individual owes his first responsibility to the state becomes coldly apparent, to the point that the child-state relationship assumes more importance than the child-parent relationship. Lenin, in fact, said that children should become the sole charge of the state.[39]

There have also been recent evidences of a "Western" variety of juvenile delinquency in the Soviet Union and some observers feel that the new boarding schools are geared as much to stop delinquency as to train leaders.[40]

Certain reforms have also been legislated for higher education in the Soviet Union. As with the changes affecting the other schools, these specify increased attention to practical experience, and a greater emphasis on evening and correspondence education to enable students to spend more time than they have previously familiarizing themselves with the work-day world. Students with work experience records will generally be given preference in admission to the universities. Certain organizational changes in higher education will also be carried out.

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[34] Hechinger, *loc. cit.*

[35] Medlin, *op. cit.*, p. 128.

[36] Max Frankel, "Changed Schools Reopen in Soviet," *New York Times*, September 2, 1959, p. 20.

[37] Read, *op. cit.*, p. 197.

[38] Alexander G. Korol, *Soviet Education for Science and Technology* (Boston: John Wiley and Massachusetts Institute of Technology, 1957) p. 36.

[39] "Schools in Russia: Devouring the Mind," *Newsweek* 48:114; October 29, 1956.

[40] *Ibid.*

It is, of course, too early to make any valid observations on the real scope and effect of the changes destined to follow the school reform legislation. The first changes were begun only in September, 1959, and at that time Frankel reported in the *New York Times,* from Moscow, that the changes which he observed could be described as a "moderate switch of emphasis."[41] He reiterated that "it will be five years before (the changes) are fully worked out and placed into effect." Observers have differed somewhat in their estimation of the impact of the school reform program, and only time will reveal its true significance.

The Future

What long-range effect is the Soviet pattern of general education having on its youth? What is likely to happen in the foreseeable future as a result of the kind of education now being promulgated so avidly in the Soviet Union?

These are, of course, difficult but all-important questions. Unquestionably, the inquiring mind which is fostered by a heavy emphasis on science and the scientific method will eventually insist on answers to questions which have, to this date, been omitted from the education of the Soviet youth. There are evidences already that the youth are eager to learn more about the outside world, and that they are interested in facts—not Communist-filtered propaganda. This attitude is not widespread yet, but President Hatcher reported the instance of a Soviet youth who discussed with him the possibility of obtaining greater numbers and more representative translations of English and American authors.[42]

The more optimistic observers predict that in creating a super-educational machine the Soviets have indeed sown the seeds of their own downfall. Wendell Wilkie is quoted as having remarked to Stalin in 1942:

> If you continue to educate the Russian people, Mr. Stalin, the first thing you know you'll educate yourself out of a job.[43]

Allen W. Dulles, head of the Central Intelligence Agency of the United States, has stated:

> In introducing mass education, the troubled Soviet leaders have loosed forces dangerous to themselves. It will be very difficult for them henceforth to close off their own people from access to the realities of the outside world.[44]

There is a potential "boomerang" effect in the current Soviet emphasis on science and technology which can easily be overestimated, but is nonetheless real. DeWitt comments on this:

> In the Soviet setting, the creatively inclined individual is most likely to seek escape, yes, indeed, escape, from political and social reality, from the theology of communism, in a scientific or engineering career. It is a paradox, a tragic dilemma of Soviet science education that it is propelled by psychological forces largely not of its own making. Many good men who flock to its ranks are there to escape the hazards of political reality, to seek a safer haven, and to preserve the tiny bits of human honesty and dignity largely destroyed or shattered in the hypocrisy of communist tyranny.[45]

Allen Dulles, in a commencement address delivered at Columbia University, said:

> Possibly for a time the Soviets will go forward, using their educational system as a sorting device for human assets. Half-educated men—all fact and no humanity—may still be good fodder for totalitarianism. Possibly the Soviet leaders will encounter problems for which they will seek the solutions by foreign adventures. But there remains the possibility that newly created wants and expectations, stimulated by education and perhaps by more exposure to the West, will in time compel great and almost unpredictable changes in the Soviet system itself.[46]

During 1959 and the early part of 1960 (before the collapse of the Summit Conference in May, 1960) there was a noticeable lessening of tension behind the Russian facade. The Hatcher party was received most hospitably in April and May, 1959.

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[41] Frankel, *loc. cit.*

[42] Hatcher, *op. cit.*

[43] Allen W. Dulles, "Education in Russia May Defeat Communists," *U.S. News and World Report* 39:127; September 16, 1955.

[44] *Ibid.*, p. 128.

[45] Nicholas DeWitt, "Soviet Science Education and Its Challenge," in Kermit Lansner (ed.), *Second-Rate Brains* (n. p.: Doubleday, 1958) p. 18.

[46] Dulles, *op. cit.* p. 128.

Other reports indicate similar overtures of friendliness on the part of Russian leaders and particularly on the part of the Russian people.

These friendly gestures were generally interpreted to mean that the Russians had so much confidence in their system and in their doctrinaire hold on their youth that they could well afford the risk of letting them converse freely with representatives of the West. The amiability of the Soviets was thus undoubtedly an expression of the party line, which indicated that it was advantageous to begin a certain degree of intercourse with the West.

President Hatcher has interpreted this same phenomenon differently. He explains that the present generation is one which "knew not the Czar," that in fact this generation is one whose experience dates from a more recent level. Not having known first-hand the oppression which their forebears experienced, they are less inclined to recognize and/or appreciate the saving graces of the Communist-controlled state. One observer has said, "Give them another ten years and they will defeat Communism."[47]

Thayer predicts:

> By the time they have solved their own problems and are ready to conquer the world for communism, they may also discover that the little gremlins in the Kremlin haven't left them as much communism to spread around the globe as they imagine they have.[48]

It is significant to note that even when it is viewed apart from the machinations of the Communist party, the Soviet educational system is a highly efficient and successful enterprise. Allen Dulles[49] and others have commented that defectors and emigres from the Soviet Union still retain a great deal of pride in the education which they received in Soviet hands.

Conclusion

Several factors stand out in the study of the education of Soviet youth:

1. General education as we know it in the United States is non-existent in the Soviet Union. The academic work which corresponds closest to our concept of general education is completed in the elementary and secondary grades, grades 1 to 10. At the universities and other institutions of higher education students are required to take almost all of their work in their field of specialization, as they are in almost all continental European universities.

2. Indoctrination in Communist ideology permeates all phases of Soviet education. The schools are regarded as a primary agency for instilling loyalty and dedication to the objectives of the Soviet state as decreed by the Communist party.

3. The individual counts for nothing in the Soviet Union, except as an instrument which can be molded to aid in the attainment of Communist objectives. Hence, the emphasis in education is not the enrichment of the individual for the individual's sake, but exclusively for the state's sake. This is quite different, of course, from the American concept of general education, which is primarily to aid the individual in self-realization and secondarily to help him make a significant contribution to the national economy.

4. There is a considerable rigidity extending throughout the entire Soviet educational system. Student choice is minimized as a result of the compelling demands of the planned economy. All students in grades 1 through 10 take the same subjects at the same time, over the entire country, with very few exceptions. Depending on aptitude and achievement, students are directed into fields of specialization where they can make the greatest contribution to the state. Once they have embarked on a goal which they are competent of attaining, they are not permitted to change careers as American students are.

5. There is a heavy emphasis on the nobility of manual labor and industrial production in the education of all youth. Students are taught not only to respect but to be eager to participate in various kinds of practical endeavors. The children are required to engage in various agricultural and industrial projects, not only as part of the curriculum, but after school or during school vacations. Appropriate recognition is given for such activity.

The recent school reform legislation, which places great stress on polytechnic

[47] Hatcher, *op. cit.*
[48] Thayer, *loc. cit.*
[49] Dulles, *op. cit.*, p. 124.

work experience for all youth, will serve to increase national productivity and to discipline the student in the dignity of work and help him to sharpen his own vocational goals.

6. Women are accorded essentially the same educational and vocational opportunities as men in the Soviet Union. There seems to be complete acceptance of women in almost any profession, and their training is the same as that for men with only a few minor exceptions.

7. The party-sponsored youth organizations play a significant part in the education of Soviet youth. The Little Octobrists (to age nine), the Young Pioneers (age nine to 14), and the Komsomols (age 14 to 26) provide an opportunity for extracurricular activities of many kinds. The programs of these organizations are purposely designed to attract and retain the bright, aggressive youngsters who will some day become party leaders. These organizations thus provide a training ground for leaders, a sounding board for propaganda, and an intensive activity program of an educational nature.

8. There is a strong system of incentives at work in Soviet education. Numerous devices are employed to glorify academic attainments (silver and gold stars, "hero" titles, etc.), and all children are made to realize that the greatest prestige attaches to academic or research careers. Financial rewards come quite readily to those who do well in their studies. Draft deferments are also continued for the academically talented. One of the currently suggested reforms in Soviet education has to do with establishing special schools for gifted pupils in mathematics and science in addition to those now existing for the arts.

9. Visitors to the Soviet Union report that there seems to be a favorable acceptance of the Soviet educational system among the people, and that the leaders believe it to be almost above reproach. Defectors from the Soviet Union have, in spite of their break, held the educational system in high esteem. There is every indication that the Soviets have "paid for education and are making it pay."

10. It is not only desirable, but imperative, that Americans labor diligently to understand the Soviet people, politics, geography, and educational system. The kind of mutual ignorance now extant in both the United States and the USSR relative to the culture of the opposite country is in itself a threat to world peace, and one which could be ameliorated through increased study of the many available publications. Our people should be encouraged in every way possible to learn more about the Soviet Union.

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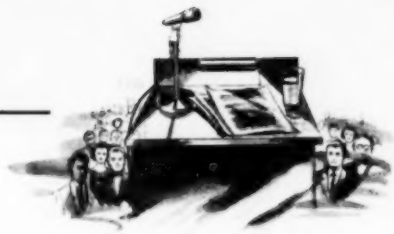

R. M. Whaley

The Future—In Our Hands

Scholars and educators must share the responsibility for shaping the future in education. Only through a continuing co-operative effort can the content and process be improved.

IN the introduction to his best-selling book, *Only In America,* Harry Golden,[1] a Jew in a predominantly gentile southern community, makes this observation:

> . . . the southerner (and any other man for that matter) arches his back at the fellow who throws a brick over the wall and runs away. But when that fellow becomes *part of the community,* the attitude toward him changes. He may not particularly endear himself, but he does acquire status, and he is not only respected, but actually welcomed as part of the ebb and flow of daily life.

It is in this spirit of community participation that I wish to speak to you tonight in Detroit. For we are developing in this country a community of scholars and educators working together to achieve common goals. There has been much throwing of bricks over the wall and running away. There has been much loose talk about weaknesses in the American system of education on the one side, countered by equally loose logic by others who rush in on the defensive. It seems to me that you can neither attack nor defend a system that does not exist. Elementary and secondary education in America represent the collective wisdom, or lack of it, of those in charge of the order of 50,000 independent school systems, reflecting ultimately the wishes of the people in each of these 50,000 communities. It has therefore been most encouraging to note the rapid growth of community groups of lay people working with school administrators and teachers trying to reassess the goals of education, to re-establish that which is proper for the schools to attempt to accomplish, and to lay the foundations for adequate continuing support within the community. The public debates will continue, but this is good. The protagonists of one point of view or another will serve to help clarify issues that concern us.

This spirit is already reaching down into many institutions. At my home institution, Purdue, to which I returned this fall after an absence of two years, I have found a much more favorable climate across the campus for

[1] (New York: Permabooks, 1959) p. xix.

Dr. Whaley is vice president for graduate studies in research, Wayne State University, Detroit. He was formerly executive director, Advisory Board on Education, National Academy of Sciences—National Research Council, and in this capacity served on the Steering Committee of the three national TEPS conferences, which were sponsored cooperatively by the National TEPS Commission, the Academy, and seven other national professional organizations and held at Bowling Green, Ohio, in 1958; Lawrence, Kansas, in 1959; and San Diego, California in 1960.

This is an abstract of Dr. Whaley's address before the Michigan Conference on Teacher Education and Professional Standards, Detroit, January 7, 1960.

co-operative planning and action, for the actual offering of courses of study for teachers in subject-matter areas where such courses did not exist before, for making possible regular graduate work in the sciences while a teacher studies for a master's degree. There has been a remarkable increase in the number of colleges and universities offering special master's degrees for teachers in subject-matter areas. Again I want to emphasize that these changes have grown out of an increasing awareness of professors in the liberal arts fields that they must again share a portion of the responsibility for educating teachers. The preparation of a student for the teaching profession is not started in the post-graduate years, as is the case with law and medicine, but begins with the first courses in college; indeed, some would say, back in the secondary school. The order of 80 per cent of a prospective teacher's undergraduate studies is taken outside the school or department of education. It would seem redundant to assert that the more we can involve faculty members of the subject-matter departments in thinking through problems relating to education and instruction in the schools, the greater will be the probability that they will give the kind of courses best designed to prepare teachers to perform with skill and effectiveness in their classrooms of the future.

Although we cannot project ourselves into that future classroom, there are now clear indications of trends in the content and practice of teaching that make imperative the continuation and intensification of the co-operative approach, involving specialists from diverse fields of learning.

Dynamic Curriculum

One trend deals with the curiculum of elementary and secondary education. Apparently, despite a veritable parade of new textbooks and other teaching materials, there has not been a really basic change in the content of the curriculum for many, many years. The story goes, according to Dean Berry of the Harvard Medical School, that there is only one thing more difficult to move than a cemetery, and that is a curriculum. The curriculum, according to another characterization, is cast in concrete. But of late there appear to be some cracks forming in that concrete curriculum, and if the trend continues, there may develop a complete shattering of the structure. I am not too fond of this particular figure of speech, for it connotes destruction only. I would much rather say that there are impressive evidences that we now see emerging a dynamic curriculum, a curriculum that can keep pace with new knowledge, with findings of scholars in the universities and research laboratories, a curriculum that can in greater measure fill the needs of society as those needs change, a curriculum that can in the hands of highly motivated and effective teachers carry the schools much farther on the road to excellence.

The most notable changes so far happen to be in the sciences. You are all acquainted with the undertaking of a group of physicists working with teachers and educators to produce a new physics course for the high school. This group is the Physical Science Study Committee headed by Dr. Jerrold Zacharias at the Massachusetts Institute of Technology. It is supported by grants from the National Science Foundation and private foundations. Over the past three years, the members of this group have attempted a completely fresh look at concepts of physics as understood and used by physicists working at the frontiers of research, and they have endeavored to translate these concepts into an understandable and teachable form for use in the secondary schools. The task has not been an easy one, and they are to be congratulated, I think, not only because they have carried through the project to the first trial stage, but because they have sought out and accepted the advice and suggestions of teachers in many parts of the country who are using the materials in preliminary form. As many of you undoubtedly know from direct experience with these materials, the course attempts to utilize effectively various modes of instruction, to draw upon the best of various techniques. When finished, in addition to the textbook, there will be teachers' manuals, a series of 60 to 80 films on selected topics, a series of paperbacked monographs, and a kit of simple materials for construction of basic apparatus for laboratory experiments.

That this new course will have a marked impact on physics in the schools is certain, regardless of the number of adoptions by

school systems. It will set the pace for others who might wish to compete with different materials. The PSSC text has been used experimentally in over 300 schools in 1957-58 and 1958-59, and over 1,000 high-school teachers of physics have received formal instruction in how to teach the course. Many of these teachers participated last year in the 15 summer institutes supported by the National Science Foundation expressly for such a purpose. A total of 35 films are already completed, as are five of the monographs. Revisions of the materials will continue to be made throughout the current year before they are published for widespread sale and distribution next fall. Even then, it is readily admitted that this will not be the last word on physics. A continuous process of revision, reflecting new knowledge, improved ordering of topics, and better use of laboratory and other aids to learning, will undoubtedly follow. But this will require the continued association of academic people, of university physicists, working harmoniously with teachers and educators.

Whereas the physicists and their associates in the schools have been concerned with a single course for a single year of high school, a group of mathematicians, also with National Science Foundation support, has been addressing its attention for the past 18 months to a sequence of materials which would ultimately encompass all 12 grades of elementary and secondary education in mathematics. This group is under the direction of Professor E. G. Begle of Yale University, with basic policy set by an advisory committee of research mathematicians from universities and colleges, mathematics teachers from the schools, and experts in education. Because there may be some who question the need for such a major effort, I should like to quote portions of the objectives set for this School Mathematics Study Group:

> The world of today demands more mathematical knowledge on the part of more people than the world of yesterday, and the world of tomorrow will make still greater demands. Our society leans more and more heavily on science and technology. The number of our citizens skilled in mathematics must be greatly increased; an understanding of the role of mathematics in our society is now a prerequisite for intelligent citizenship. Since no one can predict with certainty his future profession, much less foretell which mathematical skills will be required in the future by a given profession, it is important that mathematics be so taught that students will be able later in life to learn the new mathematical skills which the future will surely demand of many of them.

This objective of the Study Group will not be met by mere cramming of more and more mathematics into the curriculum. On the contrary, the Group seeks to improve that which is now provided in the curriculum in terms of content, approach, and ordering of topics so it will "offer students not only the basic mathematical skills but also a deeper understanding of the basic concepts and structure of mathematics." Of prime interest to the group is the generating of a positive attitude of students toward mathematics rather than an aversion to the subject, which is so often developed during the elementary and junior-high years. We know this can be done. I have talked to many mathematicians and teachers who have gone into the classrooms of the early grades, taking entirely new materials and a new philosophy of teaching, and have come away after weeks and months of daily teaching with a sense of wonder at the alertness and ability of young minds. Mathematics can and must be presented in such fashion so as to attract the interest and active development of more young people, boys and girls, throughout all of their school years, regardless of whether or not they pursue the subject as a profession.

Considerable progress has already been made by this Group. A writing group of 45 spent the summer of 1958 drafting materials to be tested during the following school year. It is significant that 20 of the 45 participants were high-school teachers of mathematics. They all came up with outlines for a new approach to mathematics for grades 9 through 12 and with a number of experimental units for grades 7 and 8. The latter materials are not being looked at as the termination of arithmetic in the elementary schools, but rather as setting the foundation for a deeper understanding of mathematics to be developed in the high school. These junior-high materials were tested in over 100 classrooms last year throughout the country, and in addition will be thoroughly studied this year under controlled conditions in many schools throughout Minnesota by the Minne-

sota National Laboratory for the Improvement of Secondary Mathematics.

This Minnesota Laboratory is in itself a unique and highly significant development, exemplifying the best possible relationship between academic scholar and educator, between the subject-matter specialist from the university and the teacher in the classroom. Dr. Paul Rosenbloom, of the University of Minnesota Department of Mathematics, internationally recognized for his contributions to pure mathematics, decided that he owed it to his country and to his profession to help schools overcome the unavoidable handicaps they suffer when continually cut off from the exciting and stimulating world of mathematics known to creative and applied mathematicians. He has for the past two or more years been working closely with teachers and school administrators, going himself into elementary-school classrooms to teach a new type of mathematics with phenomenal results. He is, I believe, the first scientist ever to be officially on the staff of the Minnesota State Department of Education. He has become, in the words of Harry Golden, a part of the educational community and has acquired status and is respected. Out of this experience evolved a plan for making of the entire state a laboratory for testing new curricular materials in mathematics. With official action and recommendation from the State Department of Education, and with subsequent action by the State Legislature, the Minnesota Laboratory was created and has contracted with the School Mathematics Study Group to test materials.

I cannot leave a discussion of the rapid strides being made in developing a new look in school mathematics without making reference to the fact that many other groups, committees, and writing teams have been and still are hard at work, using a variety of approaches, but all sharing in common the dream of making mathematics in the elementary and secondary schools the exciting and rewarding experience it can be for a majority of pupils, for pupils of different ability levels. The University of Illinois Committee on School Mathematics, directed by Professor Max Beberman, has developed completely new texts for all four years of high school, with the experiment now being extended into high schools throughout the nation. Dr. John Mayor, director of education for the American Association for the Advancement of Science, has for the past two years directed a junior-high-school mathematics project at the University of Maryland which is receiving repeated tests in the schools and is being adapted by the Begle group. On the West Coast, Professor Patrick Suppes of Stanford has had surprising results teaching elements of Euclidean geometry to primary-grade children. All persons engaged in these programs share the surprising finding that pupils at all grade levels have the capacity to comprehend and use concepts far more abstract than was assumed when the old and familiar curriculum was being used. And what is most important, the pupils enjoy it!

Furthermore, all of these are group activities, involving experienced teachers from the schools and distinguished research mathematicians. To quote again from the first report of the School Mathematics Study Group:

> It is a fundamental belief . . . that substantial improvement in the school mathematics curriculum can result only from co-operation, on an equal basis, of both these groups. The most important outcome of this (the summer of 1958) writing session was proof that such co-operation is possible and productive. Many of the participants came with a certain amount of skepticism on this point. But this soon vanished and was replaced by enthusiasm and a determination to see the work through to a conclusion.

Were I to proceed along similar lines of discussion in other areas of the curriculum, I would never be able to get beyond my first point. Suffice it to say that comparable efforts by teams of scientists working with educators, with school teachers, are beginning to transform the curriculum in biology, not only for the traditional course taught in the tenth grade, but materials that are introduced at various stages of a student's progress through the grades. This is of great import, for we in the universities are now witnessing a veritable revolution in the content and concepts of biological science. These new ideas, and the vistas opened up therefore to man, must find their way into the curriculum in the schools. Similar experiments are beginning in chemistry; and last summer a start was made at Duluth, Minnesota, in the earth sciences.

It would not be fair or accurate for me to leave you with the impression that only the

sciences are receiving such attention. Speaking of revolutions, I know of none that has hit the elementary schools with such force as that in modern foreign-language teaching. I am told by Professor Elton Hocking of Purdue that as a result of explosive developments of the past few years, more students are studying foreign languages in elementary schools than in all of the colleges and universities in the country. And these changes in interest are accompanied by radical changes in the techniques of teaching languages. Here the university linguists and professors are working in close harmony with school teachers and other educators in developing new laboratory schemes for instruction, and increased and effective use of tapes and of films—all to bring the student more rapidly to a comprehension and command of the language at an early date, and to enjoy it at the same time.

Implications For the Education of Teachers

My theme has been that we all must share responsibility for shaping the future in education, that through working together as a community of scholars and educators we can improve the content and the process of education. But will all of this materially help in meeting the recurring problems that come up for discussion at teacher education meetings everywhere?

More specifically, how does what I have said apply to what you are here considering at the Michigan State TEPS Conference? I am convinced that there is an intimate relationship, of great significance. A few words with respect to problems so often discussed at such meetings should suffice to demonstrate what I mean.

Recruitment. Much too often we hear of professors discouraging their good students from considering teaching in the schools as a career. This all-too-frequent outlook can be reversed if professors have more of a hand in developing and improving the quality of teacher education programs, if they can see more clearly opportunities in the profession and the need for continual upgrading of the caliber of candidates for teaching.

Motivation. One cause for success most frequently cited is inspiration from one or more individuals who in turn have been eminently successful in a given field and who have a sympathetic attitude toward the neophyte. The more prospective teachers can associate with successful scholars who understand the professional goals and ambitions of a teacher candidate, the more likelihood I see of the spark of inspiration being kindled—motivating the students toward more vigorous and dedicated study and preparation for their careers.

Subject-Matter Preparation. Need I say anything more to justify deep and continued participation of academic faculty members in strengthening this part of a teacher's education? All of general education and specialization rests in the hands of those outside the schools of education.

Processes and Techniques. Even here, where so-called "methodology" is involved, I must refer to my earlier remarks about the need for co-operative research on the learning process, for a continuing awareness that these phenomena are as fruitful fields for analysis and investigation as any other in the natural sciences, for example. Although teachers may receive instruction in methods and techniques within professional schools of education, the need for continual revision of the content of such courses, reflecting the latest findings of research, is imperative. Much of this study probably belongs in the graduate years.

Conclusion

In his new book, *The House of Intellect*, which is a devastating critique of American culture, Jacques Barzun[2] states:

> The worst faults of the schooling we now give are due to the large number of pupils relatively to the natural supply of true teachers.

Barzun says nothing about what we should do about it. It should be clear by now that we cannot rely on what he describes as the "natural supply"; we have to augment that supply by positive means, by enlisting the active encouragement of professors who have contact with all students in the college, and this can best be done by involving continually members of all faculties of a college or university in solving problems in elementary and secondary education. I believe the continuation of the co-operative movement now gaining momentum within TEPS and spreading throughout the country gives us much hope for the future.

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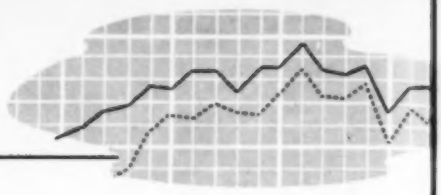
[2] (New York: Harper and Brothers, 1959).

With the Researchers



DAVID G. RYANS, Research Editor

Douglas E. Scates

Unlocking for the Profession A Wealth of Educational Research

IN presenting the new 1960 edition of the *Encyclopedia of Educational Research*[1] to the sponsoring organization, the American Educational Research Association, at its meeting in Atlantic City last February, J. Cayce Morrison, three times chairman of the board of editors noted:

> It is another milestone in the progress of educational research. It conveys the vision and vitality of a new generation of workers.

Lee C. Deighton, vice-president of the Macmillan Company, speaking for the publisher, commented:

> This is an age of exploding knowledge. Communication is our problem. The *Encyclopedia* is a forthright confrontal of this problem. It lends distinction to the name Macmillan.

He then presented an exquisitely bound copy of the work to the person most directly responsible for this completely new edition, the *Encyclopedia's* editor, Chester W. Harris, of the University of Wisconsin.

Behind this simple exchange of courtesies lay uncounted hours of volunteer work by professional persons, all experts in their respective fields of specialization and in their understanding of research. Behind the immediate summarizing work of the 200 contributors is a vast network of one research after another, dealing with all aspects of education, and numbering in the many thousands—from which approximately 14,000 studies were selected and cited to represent the course of research progress and the latest views in the areas dealt with. The ceremonial at the annual meeting was but a token recognition of the completion of this monumental co-operative task which makes available to all of us the carefully evaluated, interpreted, and synthesized research of the present century on problems of education.

In what ways can such a volume be of value? It can guide our efforts; it can give us content for our teaching; it can be assigned as reading for students; it can suggest areas for further research. A variety of ways in which such a comprehensive summary of research can be employed was outlined when the second edition of the *Encyclopedia* was published in 1950.[2] The points still hold.

Value and Content

For the present, let us assume a purely selfish point of view. Let us say that we want something of direct interest to us as readers, that will engage us as we read, while at the same time being of value for our work.

[1] Chester W. Harris (ed.), *Encyclopedia of Educational Research*, Third Edition (New York: Macmillan, 1960) 1,564 p.

[2] Douglas E. Scates, "Research for Teacher Education: Where To Find It." *Journal of Teacher Education* 1:225-30; September 1950.

Dr. Scates, who served as research editor of the* Journal of Teacher Education *from 1950 to 1958, is professor of education, University of Florida, Gainesville.

Research, whether such activity deals with ideas, documentary sources, inert objects, or behavorial phenomena, may be described as selective and critical inquiry. By inquiry we mean simply "question-asking." Indeed, scientific research often has been defined as "asking questions of nature." The stated differential or qualifying terms (selective and critical), of course, make it a special kind of question-asking—a kind which tries to put questions in ways that seem most likely to elicit answers which will be admissible, or valid. Valid evidence, or an admissible answer to a question we have asked, means an uncontaminated or unambiguous answer—or, at least, recognition of the interacting conditions which confound the "answer" and which must be taken into consideration in interpreting our findings. Much of the researcher's skill is directed at the development of strategies which will make his question-asking selective and definitive and will maximize the obtaining of valid answers.

The ENCYCLOPEDIA OF EDUCATIONAL RESEARCH, *now in its third edition, represents the efforts of the American Educational Research Association to communicate to the profession what is known about (1) applicable research strategies and techniques and (2) the accumulating body of evidence resulting from educational question-asking.*

Dr. Scates has generously responded to the JOURNAL'S *invitation to bring to the reader's attention some of the features of this most important volume. As usual, he has accomplished this in noteworthy fashion*—D. G. R.

Can an encyclopedia present anything other than a dry-as-dust recital? Strangely enough, there is little or none of that flavor in these articles. The present writer has read a fairly large portion of them and finds them uniformly engaging, stimulating, vital. They reflect the spirit of our dynamic field of work. They not only help answer questions, they start trains of thoughts. (They will do the same for students.)

Where, in such a large volume, should one start reading? Where one wishes to, of course. A few notes on what is available may help one find what he most wants. Of particular interest is a set of articles on teacher education, running to more than 30 pages and citing nearly 300 references. The section is divided into four separate treatments to permit one to follow his immediate interests more readily. There is a sketch of our past and a treatment of organization and administration which deals with many current problems. One senses that administration is not something just for administrators. The article on programs lies at the heart of what most professors will consider their chief interests. It includes a description of various plans currently being tried out to assure a broad, balanced education for teachers. Student teaching comprises the fourth section, dealing with the subject amply in accordance with its importance. We learn of new views on the goals of student teaching, and of various methods of evaluating the effectiveness of the work.

Almost an essential part of teacher education is the subject of teacher effectiveness which immediately follows. This ten-page provocative summary is divided into two parts: "Criteria" and "Prediction." The reader is given a treatment of various classes of criteria and of criterion measures which is valuable, not only in its present setting, but as an adjunct to "Staff—Selection and Appointment," and as an orienting supplement to the specialized articles on "Validity," "Observational Techniques," and "Prediction," which appear elsewhere.

One is struck by the sharp differences in view between the practical school administrator and the skeptical research worker. Many of the qualities which the administrator feels constrained to consider in his selection of staff members are scarcely credited by the researcher as components of effectiveness; they are classed as prestige criteria, pseudo criteria, secondary criteria, or concomitants not ordinarily to be accepted for criterian measurement. These commonly used characteristics may represent the very best of "common sense"; but as various researchers have noted, evidence does not uniformly support ideas which nearly everyone takes to be obvious—ideas which grow intuitively out of "the basic wisdom of the human race." Other researchers assert that the "armchair" approach to teacher effectiveness is sterile and ought to be abandoned. If the reader will overcome his initial shock from these articles, restrain his whole-hearted

repudiation of them, reread them a number of times, and then do some long, hard thinking, he will have received enough value to justify the entire *Encyclopedia*.

Higher Education

Many of us engaged in teacher education are connected with colleges and universities. The *Encyclopedia* devotes 81 pages to the research on these institutions. This is likely to be background reading for us; yet it is very close to home. An impressive review of histories of higher education here and in other countries, prepared by William W. Brickman, will serve far beyond the life of the present volume as an example and standard of historical writing and as a stimulus and guide to subsequent researchers. Even for persons not immediately interested in history, it is recommended reading as an example of rare scholarliness and imposing scope. The *Encyclopedia* gives the history of graduate education, offers a separate article on the history of education, and includes a section on "development" under many of the subjects treated generally.

The reader may think he is not interested in the government of higher educational institutions; but such sections as "Impact of Controls on Higher Education," and "Evaluation of State Co-ordinating Agencies" may intrigue him. "Organization and Administration" will be of help to administrators; but faculty members may find in this section material that will encourage and guide their efforts in obtaining administrative services and practices they may desire. "Salaries," "Promotion," "Tenure," "Sabbatical Leave," and "Retirement Provisions" are sections that should appeal to even the most indifferent. The section on programs includes the changing nature of college aims, factors affecting the curriculum, contrasting philosophies of higher education, the teacher's role, and independent study programs. "Evaluation" includes a number of beckoning, perhaps tangy, topics: evaluation of other than subject-matter outcomes; rating of college instructors; evaluation of institutional programs; self-evaluation by institutions; and inter-institutional co-operative studies.

The almost universally troublesome problem of the increasing number of students receives attention in a separate section. Twice as many persons were born in 1952 as in 1932. In addition, an increasing proportion go to college. Meanwhile, in less than 20 years, the expense to the student has doubled, in both public and private institutions. But there is much more than figures in this section. The college student body of the United States is analyzed along both sociological and psychological dimensions with a number of surprising results. In fact, this section may well be the most comprehensive, compact source of information on college students that is to be found. The final section on colleges, which deals with student services, affords a supplement to the foregoing one on students. (Those who are interested will also consult "Student Personnel Work," "Psychological Services," "Health Services," and perhaps "Child Guidance Clinics.")

Graduate education is given separate treatment under its own heading. What was graduate education like in the "good old days"? What are institutions requiring for the master's and doctor's degrees? Are our programs at the present time beyond criticism? The answers to these questions, included in the reports of three top-level committees, do not make one rest easy.

Other Areas

There are articles giving a similar appropriate treatment to other large segments of educational activity. There are major sets of articles on elementary education and on secondary education. Other types of education carrying their own titles are: adult education; early childhood education; extension education; general education; in-service education; international relations in education; junior colleges; professional education; rural education; special education; and vocational education.

Three general, fundamental entries will be noted, chiefly to illustrate the organized thoroughness of the *Encyclopedia*. "Educational Psychology," for example, discusses the nature and limits of this field of work and then serves as an index to the many articles in the *Encyclopedia* dealing with specific topics. "Developmental Psychology," for example, is treated in 11 different articles. "Learning," considered under this

heading from the standpoint of psychological principles and problems, also finds its way into countless discussions. Other sets of articles deal with the psychology of individual differences and differences among groups, personality and its many manifestations, mental health, intelligence, attitudes, interests, and research methods adapted to psychological research. The scope of educational psychology is thus, through itemization, built up inductively to an impressive richness and breadth.

A companion article, "Educational Sociology," is not entirely discrete in its content. For half a century or so, sociology and psychology have shared the area of social psychology, each making major contributions. Likewise, both disciplines can claim legitimate interests in the student body, in the teaching staff, in the curriculum, in the goals of education, and in group processes. The difference is a matter of direction by which the subjects are approached. Education needs both views to aid in its fuller and more certain orientation in the service of a complex society of psychological beings. While a limited number of readers may think they are obtaining from the *Encyclopedia* everything they want when they consult those articles referred to in the section on educational psychology, it is worth observing that we are all members of a society and would have no gainful employment or recognized value for our professional knowledge if it were not for the organized culture in which we function and the values supported by that culture.

For those who look outward, a number of articles closely related to educational sociology should be mentioned, since the main article does not index them. We call attention to "Comparative Education," "Cultural Differences," "Intercultural Education," "International Relations in Education," "Population Change," "Adulthood and Old Age," "Church, State, and School," "Citizenship Education," "Community," "Public Relations," "Delinquency," "Family," "Family Life Education," "Federal Relations to Education," "Group Processes," "Mass Media," "National Economy and Education," "Parent-Teacher Relationships," "Reading: Sociology of," "Recreation," "School and College Law," "School District Organization," "School Surveys," "Social Effectiveness of Education," "Sociometric Methods," "Staff," "State School Systems," and "Teachers' Organizations." No doubt "History of Education" also has contributions to make to this field of thought.

The third fundamental article deals with philosophy of education. Perhaps it should be the first of the three mentioned; yet it is in a large degree contingent on changes and developments in the other two—as they are also, in part, contingent on changes in the philosophy and economic conditions of our society. In education, the whole of life meets.

There are several other large groups of subjects that are admirably covered in the *Encyclopedia*. We shall merely refer to them. For one group, there are the subject-matter fields—for example, 15 articles deal solely or mainly with communication and communication skills. Many articles relate to instructional methods and media. Administration is well provided for: there are 32 articles of special interest to administrators. Measurement and evaluation are given exceptionally thorough treatment: in addition to such separate titles as "Tests and Examinations," "Measurement and Scaling," "Reliability," "Validity," "Norms," "Evaluation," "Observational Techniques (Rating)," "Accreditation," measurement or evaluation appears as part of the outline of nearly 40 per cent of the 185 articles in the volume.

Articles on research methods, excluding those dealing with measurement and in addition to numerous incidental treatments, appear under the following titles: "Research Methods," "Statistical Methods," "Sampling Methods," "Survey Research Methods," "School Surveys," "Processing Data," "Prediction," "Experimental Method," "Bibliographical Sources," "Historiography" (under "History"), and "Research Bureaus."

The reader is advised to consult the index in the middle of the volume, (a) for many subjects he does not find directly from the alphabetical order of the articles (e.g., "Content Analysis") and (b) for some subjects which he may find directly under their topical headings, but which also are treated additionally elsewhere (e.g., comparative education has its own heading, but is treated also as a section under "Bibliographic

Sources"). Some things in this treasure chest also await rewarding discovery through search—"Comparative Higher Education," for example, is treated as a section beginning on p. 236.

There are many articles in the *Encyclopedia* that provide a real treat. One pauses occasionally to think of the many hours the editor and the individual contributors must have spent wrestling with problems of style and emphasis, struggling ever toward a real but complex and unspecifiable goal. The writer would like to take this means of expressing his own feeling of gratitude to those who have labored hard, not only to locate, evaluate, and interpret a multitude of research, but to present their work in such a way that the reports make fascinating reading.

Taken together, the articles in the *Encyclopedia* give readers the assurance that many aspects of our work have been subjected to searching and critical scrutiny and put against hard evaluation. Much of what we do in education is carefully thought out and well based. But research is restless stuff. It gives us a few facts and many nudges. The *Encyclopedia* articles contain both subtle and overt suggestions for shifting emphases in our work and for continuous experimentation. One basic quality of research is that it is ever on the move. It may move the reader. Certainly an outstanding impression one obtains from the *Encyclopedia* is that of vitality—of a large number of persons giving serious, continuing study to the many facets of our work with a resourcefulness and ingenuity that far exceed the thoughts any one of us could command.

From Here On

The better a synthesis and bibliography are, the more worthy they are to be continued—*continuously*. The *Encyclopedia*, published at ten-year intervals, and with bibliographies closed as of about three years ago, affords a natural beginning point for the serious study of almost any subject in education; but the very thoroughness of the work and the sincerity of the contributors evoke from the user some complementary sense of co-operativeness in doing what the writers could not do—in going beyond their closing dates. One feels it is only fitting to do his part. Here, too, one will find that others have been working to help him. The *Review of Educational Research* (also published by the American Educational Research Association) is regarded as the principal periodic supplement to the *Encyclopedia*. All of the issues will be called for; but those dealing particularly with a subject of one's interest will normally appear at intervals of, usually, not more than three or four years. The *Bibliographic Index* will afford bibliographies (not necessarily of research *per se*.) The series of "Selected References on Teacher Education," which ran annually in the *Elementary School Journal* from December 1933 to January 1959, was discontinued on this last date. The series of lists of doctoral studies in education, which has appeared annually in the June or September issue of this *Journal* since June 1952, and which is expected to continue, affords one source of recent studies conducted by graduate students. For more immediate references, research or otherwise, the *Education Index* is a continuing "must." A general survey of the means of keeping a bibliography up to date is given by Alexander and Burke.[3]

Before the planners and individual contributors go to work on the 1970 edition of the *Encyclopedia*, there is much for all of us to do: We must use what has already been made available to us and stir ourselves to keep up with the new.

[3] Carter Alexander and Arvid J. Burke, "Finding Bibliographies and Bringing Them Up To Date," in *How To Locate Educational Information and Data*, Fourth Edition (New York: Teachers College, Columbia University, 1958).

Creativity

The development of a human personality is the most sublime creativity in the universe—and it is entrusted to us. Creativity is no isolated thing. It is part of the fabric of daily living.—*Sylvia S. Bremer, "Who Are You,"* THE DELTA KAPPA GAMMA BULLETIN *24:42; Spring 1958.*

Browsing Through the Bookshelves

VAN CLEVE MORRIS, **Review Editor**

Educational Philosophy

Kenneth H. Hansen, PHILOSOPHY FOR AMERICAN EDUCATION *(Englewood Cliffs, New Jersey: Prentice-Hall, 1960) 421 p. $5.75.*

William James used to divide all people into two classes: the tender-minded and the tough-minded. The tender-minded folk are those who can't stand living in a universe of change and becoming; they want security, certainty, a "U.S. Guaranteed" stamp on their truths. The tough-minded are the people who don't mind living in such a universe; in fact, they rather enjoy it. They can stand not having certified answers from their world; they rather like not being absolutely sure of things.

One of the standard brands of tender-mindedness in the history of thought is idealism, a philosophy which holds that there is Ultimate Truth embedded in reality, that this Truth is potentially knowable, and that such Truth is therefore a reference point for navigating our way through life. The leading brand of tough-mindedness is one or another variant of empiricism, America's contribution, of course, being John Dewey's pragmatism.

Many a writer in educational philosophy has gotten the missionary urge to show how it is possible to believe in both of these philosophies—idealism and empiricism—at the same time. And just as many have broken their heads trying. Professor Hansen got the urge, and he has tried.

Hansen has developed a lengthy argument around the general thesis of a position he calls empirical idealism. The organization is not very clear, but he discusses such topics as the language of philosophy, historical philosophies, contemporary philosophies, philosophy and religion, philosophy and science, educational aims, What is man?, education and society, administration, teaching, and the search for a philosophic system.

The writing is good. Hansen is skillful in an art not often cultivated in philosophic tracts: showing the relationship between philosophy and practice.

But since this book is offered as a text in educational philosophy, we must inquire whether Hansen has joined the broken heads. In my judgment, it is rather difficult to say. Since he did not tangle with the problem at its ontological and epistemological level, he is relatively unbloodied; but for the same reason he is somewhat unconvincing.

Hansen belongs, generally speaking, with the tough-minded. But he tenderizes his empiricism almost to the point of denying it substance. He scolds pragmatism for being amoral and anti-intellectual, for being unable or unwilling "to admit the possibility of discernible goals," for failing "to engender any sense of real commitment." He wants goals and values and commitments to have something more than a merely empirical place in life. The result of all this is a bland mixture designed to satisfy both parties.

There is some doubt in my mind as to whether this is the appropriate way to introduce students to the philosophy of education or to evangelize the reading public on a philosophy for American education. It is always dangerous to imply that philosophic consensus is a relatively simple exercise in synthesis; it seems to me that Hansen tries to make it so.

The book is inexcusably full of errors—typographical, orthographic, syntactical, and factual—giving the impression it was hastily put together and pushed through the presses without proper proofreading. It is, however, undeniably, a book that is interesting and thought-provoking; and, as noted above, the

student can get a clear picture of how philosophical ideas make a difference in the classroom.—*V. C. M.*

Professional Education

William J. McGlothlin, PATTERNS OF PROFESSIONAL EDUCATION *(New York: G. P. Putnam's Sons, 1960) 288 p. $6.75.*

Those of us who train teachers seldom get a chance to step back from our work, as an artist might step back from his canvas, to see the boundaries of our task. Much less, except from the volatile anti-"educationist" crowd, do we get a chance to see ourselves as others see us.

Now along comes McGlothlin to provide both of these needed services, and in an unemotional and objective but nevertheless friendly spirit. He has taken the ten leading professions in the United States—architecture, business administration, engineering, law, medicine, nursing, psychology, social work, teaching, and veterinary medicine—and analyzed the training programs for these fields as they now operate in our colleges and universities. In the course of this workmanlike, footnote-studded treatise, he compares the aims of professional programs, their curricula, their methods of instruction, faculty personnel, selection of students, relations of professional programs to the university, accrediting policies, and professional ethics.

Seeing teacher education taken seriously as a member of this roster of professions, and seeing it taken apart on the same basis as the others is a novel experience. For McGlothlin presents himself neither as a scornful critic nor an entrenched apologist, but something in between.

The exact classification is difficult because of the very novelty of this kind of treatment. McGlothlin himself is something of a rarity among academic species, one whose career has spanned several different professional fields without becoming identified with any one. He took his Master's in English and worked for some years in the Education Branch of the T. V. A. His "higher" education really began in the late '40's when he joined the Southern Regional Education Board, a body created by the governors of the southern states to draw up a master plan for professional schools to be established throughout their region. This work took McGlothlin into almost every phase of professional education and was, I suspect, the source of inspiration for this book. In the course of his career, he has found himself in the high policy councils of the fields of nursing, social work, and medicine. Right now he is vice-president of the University of Louisville (Kentucky) with special responsibilities for devolopment of medical and dental schools for its downtown campus.

This kind of background provides a unique platform from which to speak. Unfortunately, McGlothlin does not use it to full advantage, being content to declare at the outset, "My purpose . . . is to describe rather than to evaluate." He lives up to his word, too, confining himself to descriptions of what he sees in these ten professional programs, placing these descriptions side by side for easy contrast, and occasionally quoting, usually without comment, from official policy documents of the ten fields.

If anything, McGlothlin has succeeded rather too well in staying true to his purpose. For this brand of passionless reporting—a kind of "hard-cover" journalism—makes *Patterns* a harder book to read than it should be. One has to keep at it, notwithstanding the fact that the prose is clear and the style effortless. The reader yearns for a more sanguine approach. In his chapter on professional ethics, for instance, McGlothlin remarks that instruction in ethical principles is found in all the professions with the exception of business administration. I venture to speculate that 99 out of 100 authors in the social sciences, confronted with this datum, would have found it difficult to resist the temptation to editorialize in some fashion, placing this item in context, rendering interpretations of its meaning, perhaps drawing some moral conclusions. McGlothlin represents the one per cent. He says nothing.

About as polemic as McGlothlin ever gets is his Chapter 6 on "Relations Between the Professional School and the University." He opens this chapter with the historical comment that all of the leading medieval universities—Salerno, Bologna, Paris—were dominated by professional schools. He thinks it is somewhat strange, therefore, to hear some scholars of higher education like Abraham Flexner and Robert Hutchins insist that professional schools are "inimical to the univer-

sity." When they talk this way, he says, they know not their own origins. "Instead of restoring a university tradition, these scholars contradict the tradition to which they appeal."

For the general reader, this book may not offer much attraction. But for those in charge of teacher education programs, it represents a suitable primer on professional comparisons. Toward the end of the book, McGlothlin surrenders to the temptation of all administrators to institutionalize professional talk, to wit: start another society with annual meetings. If this trend keeps up we shall soon find ourselves in convention most of the year and running our institutions and teaching our students between plane flights. *—V. C. M.*

Teaching As a Career

Richard Wynn, CAREERS IN EDUCATION *(New York: McGraw-Hill, 1960) 307 p. $6.75.*

Reluctantly, one must concede that Richard Wynn's *Careers in Education* is a reflection of several of the ills that have beset the teaching profession. First of all, it is manifestly engaged in peddling the job of teaching, desiring to make the career attractive to students yet uncommitted, or to sustain the choice of entering freshmen as yet hesitant. In this sense, then, the book reflects the shortage of teachers by assuming that salesmanship, at times almost flagrant, is necessary to attract and hold students. This merchandising of the profession includes particular stress on the fringe benefits: "intrinsic value of the work, security, the right to participate, chance for recognition and approval, humane treatment, and self expression." When the critical issue of salaries is discussed, comparison with other professions is invoked on the basis of the low income of *some* doctors and *some* lawyers. While it is true that the negative aspects of the salary predicament of teaching are discussed, invariably these come as minor afterthoughts after roseate affirmations of what the author believes are positive aspects.

Secondly, the intellectual level of the writing is nearly on a par with most high-school freshman social-studies texts. To document this I suggest the interested reader browse at will for himself; however, for me, one sentence on the first textual page epitomizes it all: "Here is a little preview of what we shall be talking about."

This level of writing reflects another of the ills of the teaching profession: the currents of anti-intellectualism that tend to permeate the professional education of teachers and are largely responsible for the antipathy for education courses of most of the more able students.

In fairness to Wynn, he does point out in the preface that his book, in addition to being designed for use in exploratory courses in education, can be used for "parents, teachers, counselors, librarians, and Future Teachers of America and Student NEA sponsors." He obviously, therefore, felt the need to write for the lowest common denominator.

Accordingly, I would recommend this book to parents and such groups as the Future Teachers of America clubs. It would also make a good reference book for high-school libraries, and there are a few sections that could supplement an introductory course in education.*—David W. Martin, Assistant Professor of Education, University of Southern California, Los Angeles, California.*

College Teaching

Joseph Axelrod (ed.) GRADUATE STUDY FOR FUTURE COLLEGE TEACHERS *(Washington, D. C.: American Council on Education, 1959) 111 p. $1.50.*

In a somewhat belated review, I wish to call attention to this booklet on the preparation of college teachers, which appeared about 18 months ago. We all know that history and tradition insist that college professors need no "teacher education," and the graduate schools of arts and sciences, from which most of our college teachers come, want to keep it that way. They are reluctant to admit that pedagogy is a field of study, much less a science, and therefore are dogged not to let it penerate the M.A. and Ph.D. programs over which they preside.

On the other hand, current unrest indicates that there is a wave of disenchantment in the land about the quality of teaching at the college and university level; there is concern whether the ancient method we have always followed to prepare the college professor—the Ph.D. program—is the best method; and, of course, there is worry over the nu-

merical shortage of college teachers which threatens in the years ahead.

All of these considerations are brought to a focus in this pamphlet, and the ideas developed therein are worth pondering, not just for those interested in teacher education for the college professor but teacher education wherever. For, inevitably, the teaching act as a phenomenon in human behavior is a thing of great wonder, and communicating its understanding to others is complicated and difficult. Whoever approaches these tasks thoughtfully ought to have our ear.

The booklet itself is a report of a conference on college teacher preparation called by the American Council on Education's Committee on College Teaching in the spring of 1958. Participating were 39 individuals, principally presidents of liberal arts colleges, university presidents, and graduate-school deans. Two of the group came from the side of professional teacher education: Dean Cottrell of Ohio State and Professor Ralph Fields of Columbia Teachers College.

The conference was held without a formal agenda and consisted principally of a free-wheeling, open-ended conversation among a vocal group of 15 to 20 among the total of 39. At least what Editor Axelrod thought publishable turned out to have been contributed by this minority, indicating perhaps that a "seminar," as Chairman O. Meredith Wilson called it, ought not be attempted with so large a group.

Nevertheless, it was Axelrod's editing which rendered the conversation intelligible and significant; in a sense, he emerged as the "star" of the show. For he has not been a slave to the tape recorder as so many such editors are; he has cut, interpolated, connected, and polished the prose in an admirable way, making this one of the most readable and most interesting accounts of intelligent, articulate adults dealing with a difficult professional problem.

One of the built-in difficulties of discussions concerning the education of college teachers is the fact that the producers of the product are its principal consumers. Faculties of graduate schools and their close brethren, the liberal colleges, appear sometimes to have developed a closed "priesthood" into which it is difficult to insert any new ideas; they want to go on producing college professors in their own image. And this means that they tend to endorse the same kinds of training for today's young scholar-teacher as they themselves endured a generation ago.

Hence, when it is suggested that (1) the Ph.D. be turned into a research degree and another degree be created to serve as the teaching degree; or (2) the Ph.D. be revised to be a research *and* teaching degree; or (3) the M.A. be resuscitated and returned to active academic duty as a teaching degree; or (4) that different degrees and programs might be necessary for different kinds of collegiate teaching—junior and community colleges, general education programs, upper-division liberal arts programs, graduate schools, research institutes—the temptation is to return to the safety of the venerable Ph.D. in its standard form as the all-purpose ticket to get into the union. All these suggestions, and many others, were offered in the course of the meeting; and the conferees, while resisting temptation, nevertheless appeared to close their conversation on a "stand-pat" note.

But, in arriving at this point, they have said many interesting and provocative things. And Axelrod has put it all down in a clear and facile form.—*V. C. M.*

Books Received

1. American Association of School Administrators, *Year-Round School* (Washington, D. C.: the Association, 1960) 26 p. $1.00.
2. Homer D. Babbidge, Jr., *Student Financial Aid: Manual for Colleges and Universities* (Washington, D. C.: the American College Personnel Association, 1960) 56 p. $1.50.
3. Fred P. Barnes, *Practical Research Processes: A Guidebook in Research Methods for Practitioners in Education* (Springfield, Illinois: Illinois Curriculum Program, Office of the Superintendent of Public Instruction, 1958) 124 p.
4. Bernard Berelson, *Graduate Education in the United States* (New York: McGraw-Hill, 1960) 346 p. $6.95.
5. Merl E. Bonney, *Mental Health in Education* (Boston: Allyn and Bacon, 1960) 434 p. $5.95.
6. Charles H. Butler and F. Lynwood Wren, *The Teaching of Secondary*

Mathematics (New York: McGraw-Hill, 1960) 624 p. $7.50.

7. James D. Calderwood, Julian C. Aldrich, and others, *A Teacher's Guide to World Trade,* Bulletin No. 27 (Washington, D. C.: National Council for the Social Studies, National Education Association, 1960) 128 p. $1.00.
8. Norma E. Cutts and Nicholas Moseley (editors), *Providing for Individual Differences in the Elementary School* (Englewood Cliffs, New Jersey: Prentice-Hall, 1960) 273 p. Trade edition, $6.65; textbook edition, $5.00.
9. Paul L. Dressel and Margaret F. Lorimer, *Attitudes of Liberal Arts Faculty Members Toward Liberal and Professional Education* (New York: Published for the Institute of Higher Education by the Bureau of Publications, Teachers College, Columbia University, 1960) 55 p. $1.75.
10. Fund for Adult Education, *Continuing Liberal Education* (White Plains, New York: the Fund, 1960) 120 p.
11. Frieda M. Heller, *I Can Read It Myself* Study of Independent Reading, Bulletin 1 (Columbus, Ohio: the Ohio State University, Center for School Experimentation, 1960) $1.00.
12. Algo Henderson, *Policies and Practices in Higher Education* (New York: Harper and Brothers, 1960) 338 p. $5.75.
13. Mary Foley Horkheimer and John W. Diffor (editors), *Educators Guide to Free Filmstrips* (Randolph, Wisconsin: Educators Progress Service, 1960) 639 p. $9.00.
14. Theodore Huebener, *Audio-Visual Techniques in Teaching Foreign Languages* (New York: New York University Press, 1960) 163 p. $3.25.
15. Philip Jacobson, *Religion in Public Education: A Guide for Discussion* (New York: the American Jewish Committee, Institute of Human Relations, 1960) 40 p. Single copy, $ .75.
16. Joint Council on Economic Education, *1960-61 Annotated Bibliography of Materials in Economic Education* (New York: the Council, 1960) 52 p. $ .50.
17. ———, *100 Selected Films in Economic Education* (New York: the Council, 1960) 34 p. $ .75.
18. Stephen J. Knezevich and John Guy Fowlkes, *Business Management of Local School Systems* (New York: Harper and Brothers, 1960) 328 p. $9.00.
19. A. A. Lumsdaine and Robert Glaser (editors), *Teaching Machines and Programmed Learning: A Source Book* (Washington, D. C.: Department of Audio Visual Instruction, National Education Association, 1960) 724 p. $7.50.
20. James W. Martin and Dolores S. Cheek, *Comparative State and Local Government General Expenditure for State Institutions of Higher Education* (Lexington, Kentucky: University of Kentucky, 1960) 50 p. (Monograph.)
21. John U. Michaelis and Enoch Dumas (editors), *The Student Teacher in the Elementary School,* Second Edition (Englewood Cliffs, New Jersey: Prentice-Hall, 1960) 388 p. $6.00.
22. NEA Research Division, *Inservice Education of Teachers* Research Memo 1960-26 (Washington, D. C.: the Division, National Education Association, 1960) 23 p. Single copy free. Not available in quantity.
23. ———, *The National Education Association,* NEA Research Memo 1960-17 (Washington, D. C.: the Division, NEA, July, 1960) 9 p. Single copy free. Not available in quantity.
24. ——— and Department of Classroom Teachers, *Credit Unions for Teachers,* Discussion Pamphlet (Washington, D. C.: the Division and the Department, NEA, 1960) 24 p. Single copy, $ .25.
25. Franklin Patterson, and others, *The Adolescent Citizen* (Glencoe, Illinois: the Free Press, 1960) 387 p. $6.00.
26. Natalie Perry, *Teaching the Mentally Retarded Child* (New York: Columbia University Press, 1960) 282 p. $6.00.
27. Louis E. Rosenzweig and Julia Long, *Understanding and Teaching the Dependent Retarded Child* (Darien, Connecticut: the Educational Publishing Corporation, 1960) 185 p. $4.25.
28. David G. Ryans, *Characteristics of Teachers* (Washington, D. C.: American Council on Education, 1960) 416 p. $7.50.
29. Mary Horkheimer Saterstrom, *Educators Guide to Free Science Materials*

(Randolph, Wisconsin: Educators Progress Service, 1960) 298 p. $6.25.

30. N. V. Scarfe, *Conflicting Ideas in Teacher Education* (Columbus, Ohio: College of Education, Ohio State University, 1960) 40 p. $1.00.
31. Israel Scheffler, *The Language of Education* (Springfield, Illinois: Charles C. Thomas, 1960) 113 p. $5.50.
32. George Strauss and Leonard R. Sayles, *Personnel: the Human Problems of Management* (Englewood Cliffs, New Jersey: Prentice-Hall, 1960) 750 p. $7.95.
33. Patricia H. Suttles (editor), *Elementary Teachers Guide to Free Curriculum Materials,* Seventeenth Edition (Randolph, Wisconsin: Educators Progress Service, 1960) 346 p. $7.50.
34. UNESCO, *New Trends in Youth Organizations: A Comparative Survey* (Paris: UNESCO, 1960) 63 p. $1.00.
35. ————, *Statistics on Special Education* (New York: Columbia University Press, 1960) 154 p. $2.00.

Matching Quantity with Quality

. . . One block [to ensuring higher qualitative achievement in the face of this increase in population] is that most of our school systems have a built-in cultural lag in their curriculum: the realities outside the school change faster than the conditions within. . . . So the major question in terms of a cultural lag is, How can we provide an educational opportunity of high quality which will allow the student who begins school in 1960 to be able to cope with the realities of the world that he will deal with up to the year 2000 and after instead of having his mental processes and imagination frozen into the structures and premises of the 1960's? . . . a second block is that the major premises on which we base educational programming are hard to change because in many cases we do not have the scientific evidence as to their validity or we lack suggestions of possible alternatives to current practices.

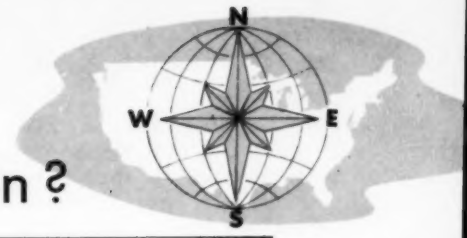
There is a third bloc to achieving educational quality for larger numbers of students: the technological status of education. For the most part, it has not changed tremendously since the invention of the printing press. . . .

Education is probably the only major profession in the United States that is using the technology of three or four hundred years ago rather than moving ahead as industry, agriculture, and other professions have done. Only the invention of the printing press and the manufacture of books and other printed aids have kept us from a blackboard-and-chalk technology. Granted, some impudent things like radio, television, films, and teaching machines have begun to rear their heads, but in terms of widespread application in education they have not had much effect.—John E. Ivey, Jr., "Matching Quantity with Quality in Education," *Educational Research Bulletin,* September 14, 1960, p. 149, 150, 151.

Liberal vs. Vocational Education

In one view the issue [liberal vs. vocational education] should never be joined. Making a living and making a life are inseparable. Helping both is a double duty. In an era when wisdom is still fruitfully pursued the whole life through, education for work has become equally a never-ending, constantly changing challenge. Neither is the job of the college; both are the obligation and opportunity of the individual. The job of the college is to help students get well started on their twin tasks. Its cherished ideal is to provide the inspiration and impetus that will keep them always learners, always doers, always seekers after truth and duty, and after the better life and better living for all their fellow-men.—Archibald B. Shaw, "One View," *Overview,* September 1960, p. 11.

What's Happening in Teacher Education?



John C. Abbott

Minors—Accident or Design?

EACH year many prospective secondary-school teachers throughout our nation are faced with the task of choosing a minor teaching field. In many cases very little thought is given to this decision. This is unfortunate since teachers are sometimes asked or assigned to teach in their minor fields. Prospective teachers' choices should take into consideration both their interest and their competence in a teaching area. Some minor teaching fields develop by accident rather than by design.

A questionnaire was developed to attempt to ascertain reasons for choices of minor fields by prospective teachers. The reasons were listed in the order that might normally be considered as having the most direct impact on our lives to those reasons usually having the least influence on us. Presented to the students were the following ten reasons from which they were to make their choices of reasons for selecting their minor fields: (1) personal interest in subject; (2) influence of parents; (3) influence of friend; (4) influence of college instructor; (5) influence of college advisor; (6) influence of high-school teacher; (7) influence of an employer (while working on degree); (8) few credit hours necessary to complete a teaching minor; (9) no deliberate planning; and (10) available positions in high-school teaching.

Instructions to the students were that if none of the choices available on the list fitted their situations, they were to write in the reason at the end of the list. In only five cases was this done and all five stated that their minors were chosen to reinforce their major teaching fields.

The subjects used in this study were members of classes in either of the courses entitled Principles and Curricula of Secondary Schools or Methods of Teaching and Evaluating in Secondary Schools at Arizona State University during the two school years, 1957-59. These two courses are both required for a pre-secondary certificate in Arizona. A total of 369 usable questionnaires were returned from these students.

The overwhelming selection, "personal interest in the subject," was chosen by 57 per cent of the respondents. This may reflect a socially acceptable reason, and it probably indicates that most students believe they are interested in their selected minors. The fact that this item was first on the list might have influenced the response.

Closer inspection reveals that reasons (8) and (9), "few credit hours necessary to complete a teaching minor" and "no deliberate planning" are very similar and probably should be considered as one in analyzing the results. These two choices were indicated 91 times or in about 25 per cent of the entire responses. Number (4), "influence of college instructor," was chosen 8 per cent of the time. These four choices account for nearly 90 per cent of the responses. One choice, "the influence of parents" (2) was chosen by no one. The other five choices were selected sporadically.

The two most important features in this study seemed to be: (1) personal interest in a subject field was the dominant factor

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influencing the students' choices; and (2) nearly 25 per cent of the students had no "good" reason for their choices of minor teaching fields. The college advisor should hold a key role in counseling prospective secondary-school teachers when they are deciding upon their minor teaching fields. In our society today we need to utilize both the interests and the abilities of our teachers so that they may be better prepared for their jobs. Helping future teachers in a careful and thoughtful selection of teaching minors appears to be more prudent than leaving this important decision to chance.

Louise Stull
Edward G. Holley

Some Materials Centers in the Midwest

FOR the last ten years librarians, teachers, and professors in colleges of education have been talking about materials centers. When the term is used by the educational *avant garde* it is taken to mean a comprehensive collection of all media of communication which might be useful for instructional purposes. The term used to describe such centers is not always the same, however. Nor can one assume that an institution describing its own "materials center" implies much more than a couple of hundred textbooks in a back room. Just what is a materials center? What can one obtain from such a center as it actually exists?

In 1957, in an attempt to answer these questions, such centers in 14 teacher education institutions of the Midwest were surveyed. Among the schools were seven state teachers colleges, three private colleges, two private universities, and three state universities. Nine replies came from Illinois, four from Indiana, and only two from Iowa. Results derived from questionnaires sent to these institutions may be helpful in assessing the current status of the materials-center concept in the Midwest and in determining how far theory has been put into practice.

The survey revealed that the materials center is normally administered by the education librarian. It may be housed in the education library, in an adjacent room, or as a completely separate unit; but it is still under the administrative control of the education librarian. Examples of the first type are the University of Illinois and Southern Illinois University; of the second type, the State University of Iowa; and of the third type, the Indiana State Teachers College. Staff in the 14 centers range from none in those physically located in or near the education library to two professional librarians and five half-time graduate assistants in the Teaching Materials Center at Indiana State Teachers College. However, the well-staffed center with adequate funds of its own was not predominant in the 14 institutions in this study.

Most of the centers were organized to serve students in the materials and methods courses in departments of education. They have therefore developed largely from collections of textbooks donated by publishers. An examination of the materials housed in the various schools revealed that textbooks still

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This report is based on Miss Stull's research for her M.A. degree at the Graduate School of Library Science, University of Illinois. The complete report is available on interlibrary loan from the Library Science Library, University of Illinois.

MATERIALS IN FOURTEEN MIDWEST CENTERS

MATERIALS	BALL STATE	BRADLEY	BUTLER	CHICAGO T. C.	EASTERN ILL.	GOSHEN	INDIANA STATE T.C.	NORTHERN ILL.	NORTHWESTERN	SOUTHERN ILL.	STATE UNIV. OF IOWA	UNIV. OF ILL.	WARTBURG	WESTERN ILL.
Books:														
Children's	x		o	x	o	x	x		x	x		o		
Adolescent	x			x		x						o		
Textbooks	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Manuals	x			x		x		x		x				
Workbooks	x			x		x		x		x				
Courses of Study	x			x	x		x	x	x	x	x	x	x	
Units of Study	x						x	x	x	x		x		
Periodicals						x	x	x				o		
Children's									x					
Professional					x				x					
Pamphlets	x			x	x	x	x	x	x	x	o	o	x	
Maps		o	o			x	x	x	x		o	o		
Posters							x	x	x					
Pictures	x	o	o		o	x	x	x	x		o			
Tests and Measurements	x			x	o	x	x	x		x	x	x		
Charts								x						
Diagrams														
Catalogues	x				x		x	x				x		
Letter Sets								x						
Toys and Games				x	x			x						
Films	o	o	o	o	o	o	x		o		o	o		
Filmstrips	o	o	o	o	o	o	x		o		o	o		
Records, Transcriptions	o	o	o	o	o	o	x		x		o			
Educational Tapes	o						x							
Realia	x						x							
Free and Inexpensive Learning Materials	x				x				x		x	x		
Equipment														
Projectors	o	o	o	o	o	o	x		o		o	o		
Screens	o	o	o	o	o	o	x		o		o	o		
Readers for Micro Cards and Films							x					o		
Listening Posts							x				o			
Turntables							x				o			

x = Materials found in the material center.
o = Materials not in lab but elsewhere on campus.

form the backbones of such centers. All of the centers have textbooks.[1]

The next most frequently mentioned type of material was the course of study which ten institutions reported. Other frequently mentioned materials were units of study, manuals, workbooks, tests, and pamphlets. However, when one breaks away from the printed word, most centers are very bare. Only three have toys and games, only four have maps, and only one has charts. In view of the increased emphasis upon films, filmstrips, records, and tapes, it is somewhat surprising that only Indiana State Teachers College

[1] MacVean's study of curriculum laboratories in 1955 reveals a similar pattern for materials in these centers. One should note that Ball State purposefully limits its center to the printed word and has an audio-visual center elsewhere in the library building. See Donald S. MacVean, "Type of Materials Found in Curriculum Laboratories" (Table 18) in *A Study of Curriculum Laboratories in Midwestern Teacher Training Institutions* (Ed. D. thesis, University of Michigan, Ann Arbor, 1958) p. 64.

reported a full range of audio-visual materials plus the equipment with which these can be used. Nine other centers did indicate that audio-visual materials were available elsewhere on the campus, but there is no indication of how easily accessible they are to students in the teacher education program.

From this survey it would seem that few teacher education institutions even approach in practice what has long been advocated in theory. After almost 15 years of talking about the multi-materials approach to teacher education, the typical "materials center," "curriculum laboratory," or whatever else one cares to call it, still does little to provide anything except textbooks and courses of study. From this survey it is apparent that not only *can* prospective teachers leave their colleges without coming into contact with all media of communication, but frequently they do. One hopes that another study of the same subject three years later would reveal significant changes in the types of materials provided by these 14 centers.

Ronald C. Doll
James B. Macdonald

A New Departure in Teacher Education

WHAT sort of teacher education program produces the best teachers? The answer to this important question is being sought throughout the nation.

The staff of Integrated Graduate Program 891 at New York University hypothesizes that the most effective program of teacher education has these major characteristics: (1) opportunity to prepare for professional education a student population which has had a rich background of liberal, nonprofessional studies; (2) integration of traditional education courses so that their content is merged within a single rationale; (3) emphasis on the tasks of the teacher and the specific meaning of these tasks for teacher preparation; (4) individualization of instruction, whenever individualization is feasible, with concomitant closeness in student-staff relationships; and (5) maximum opportunity for observation and participation by students in field situations, including school systems and community agencies.

Philosophy of the Program

Since the beginning of the academic year 1956-57, the staff of Program 891 has offered a series of full-time, one-year experiences leading to the Master of Arts degree. The design of these experiences has differed year by year as staff and students have experimented with varying program arrangements.[1] However, certain assumptions about the program, based on the preceding hypothesis, have served as constants:

1. As a consequence of their relative maturity, graduate students are more ready than undergraduate students to learn to teach.
2. Students with liberal arts backgrounds are very frequently superior candidates for teaching.
3. A one-year graduate program of teacher education should consist almost exclusively of professional studies.
4. A one-year graduate program should be centered about needs of students and their developing experiences with university staff members and with personnel of co-operating

[1] Professor William C. Spencer, recently on leave from New York University for special service with the United Nations in Chile, served as the original co-ordinator of the Program.

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school systems, rather than about a series of predetermined courses.

5. In their teaching procedures, staff members should demonstrate some of the behaviors which they hope their students will emulate in their own teaching. For instance, they should serve as guides to learning rather than as mere dispensers of information.

6. Setting an appropriate climate for learning through establishment of desirable interpersonal relationships should become a major goal of both staff and students.

To assist in selecting educational experiences for and with their students, the 891 staff turned to professional literature concerning the tasks of the teacher. It considered especially the work of Louis E. Raths on the nature of teaching tasks and the work of David G. Ryans and the California Teachers Association in the evaluation of teaching.[2] The staff, from a combination of sources, abetted by its own thinking, prepared a list of teacher roles and then designed a series of experiences to help students develop competence in assuming these roles. Sample roles and related experiences are as follows:

Role	Related Experience
Planning pupil experiences	Making plans for hypothetical discussion and for subsequent tryout with pupils in student teaching.
Informing, explaining, showing how	Preparing and conducting demonstrations and exhibits during student teaching periods.
Evaluating, recording, and reporting pupil progress	Making inventories of interests and attitudes, as well as tests of knowledge; analyzing pupil behaviors that can and should be reported, and experimenting with ways of reporting them.

[2] See Louis E. Rath's "What Is Teaching?" *Educational Leadership* 13:146-49; December 1955; David G. Ryans, "Measurement and Prediction of Teacher Effectiveness," in *Invitational Conference on Testing Problems*, Proceedings, 1957 (Princeton, New Jersey: Educational Testing Service, 1958) p. 52-67; and California Teachers Association, *Teacher Competence* (Sacramento, California: the Association, 1957).

The selection of roles and related experiences was based on thinking which proceeded substantially as follows: There are certain basic roles, acts, or areas of behavior within which teachers must operate. These areas of behavior result from the nature of the teaching task in our society and from our knowledge of the teaching-learning situation. A "good" teacher is aware of many dimensions of the teaching task, and he behaves intelligently in working among these dimensions. Intelligent behavior reflects the ability to make decisions which result in better teaching-learning situations and thus facilitate desirable learning. Teachers tend to make better decisions as they become more aware of alternatives for action, motives for behavior, and purposes or goals of activity. "Good" teachers develop criteria for making decisions based upon their understanding of the teaching-learning situation and the alternatives, motives, and purposes inherent in it.

The staff has not yet solved the difficult philosophical and operational question of the relative importance of various roles. However, a tentative solution has come in part from students' and staff members' observations of teacher activities in co-operating school systems. Students have used a staff-developed observation schedule and a log of events in classroom and school as a rough means of determining relative emphasis on different sorts of teacher activity. The tasks which students have observed teachers performing have influenced the students' own preference for educational experiences within the program. Additional cues regarding teacher roles have come from the staff's recent research in teacher performance, which will be described in a monograph to be published soon.

The Curriculum

Another question which has required more immediate resolution in an unstructured, non-course situation has been the question of kinds of experiences and the emphasis to be given each of them. With some variation from year to year, the following kinds of experiences have been offered within these time allotments: (1) get-acquainted period, initial standardized testing, orientation to the program, and

preparation for the first field experiences (two weeks); (2) observation, with the assistance of an observation schedule, of a school system from kindergarten through twelfth grade (one week); (3) observation, with an observation schedule oriented to teacher tasks, of one or two teachers at a given level of instruction (one or two weeks); (4) seminars built around basic issues and problems of teaching, individual conferences about guided readings and special projects, field trips to community centers, and consultation with experienced teachers who are brought to the campus for this purpose (seven to eight weeks); (5) observation and participation under the direction of carefully selected co-operating teachers (first student-teaching period), seminars conducted weekly by the staff in student-teaching centers, with co-operating teachers sometimes present (six weeks); (6) an interim workshop on campus, with attention to whole-group, small-group, and individual problems, and with emphasis on the felt needs of students for specific skills, understandings, and knowledge, use of consultants from a variety of subject field and other specialties, and field trips by individuals and small groups to satisfy specific needs (four weeks); (7) full-time participation under the guidance of skilled co-operating teachers (second student-teaching period),[3] close observation of student-teaching performance by staff members, and frequent individual conferences between students and staff members (seven weeks); and (8) sharing of experiences, clinic sessions concerning special student needs, retesting on standardized instruments, annual picnic, and final field trips (one or two weeks).

During the rather typical academic year which has just been described, students have worked part-time in a settlement house in an underprivileged area of New York City. One of the purposes of this experience is to help students understand children by dealing with them in non-school settings. In addition, during the winter semester students have pursued a 3-credit elective course which is tailored to their needs.

[3] May occur in the same student-teaching center as the one used in the first student-teaching period, or in a different one, depending on the needs of the individual student.

Because the 891 program is a 40-credit program leading to the Master of Arts degree, students return to the campus for the university intersession in June. During the first two weeks of the intersession period, they participate three hours each day in a culminating seminar, the theme of which is, "September is approaching, and there are additional things I need to know and practice." During the second two weeks of the intersession, students take an additional elective course, finishing their program on or about July 1.

The program prepares candidates for both elementary- and secondary-school teaching. Students planning to enter secondary education are expected to possess all or nearly all credits in their subjects of specialization before they enter the program. However, they may take their elective credits in a subject-matter specialty. Elementary-school candidates are admitted to the program without subject-matter requirements. All candidates are screened by interview, according to previous academic records, and, in case of doubt, by the administration of standardized entrance examinations. The states of New York and New Jersey provide automatic certification of 891 graduates in either elementary or secondary education. But a graduate may not be certified in both elementary education and secondary education without additional preparation. Other states have approved individual graduates for certification without objection or difficulty.

Full-time students have responsibilities which keep them occupied five days a week throughout the academic year, with the exception of Christmas and spring vacation periods. Apart from their usual responsibilities as students, they engage in varied cultural activities, attend professional conventions, and utilize in other ways their large-city environment. In many instances, they take their elective courses in fields that contribute to personal rather than professional development.

In addition to the on-campus group which numbers approximately 30 full-time students annually, the staff has recently had in its charge approximately 55 half-time students in New Rochelle, New York. These Westchester County students are mature women and homemakers who have pursued the pro-

gram in protracted form. All but 13 of the required 40 credits of work have been offered in the school administration building in New Rochelle.

Evaluation of the Program

Research data which the staff of four nearly full-time persons and one additional part-time person has developed to date tend to indicate that 891 students learn rapidly and perform admirably in their unorthodox program. These data, which are to be reported in other articles, demonstrate the growth which occurs in students' concepts, knowledge, attitudes, and values. Furthermore, they highlight students' performance of certain teaching tasks, according to observations of performance which were conducted by trained observers during the 1958-1959 academic year. Comparisons have been made between the pre-tests and the post-tests which were administered to on-campus groups, and also between test results on campus and in New Rochelle. Test data and performance data have been interrelated. At present a research project involving comparison of the 891 program with other graduate teacher education programs is being perfected.

Preliminary evidence about the effectiveness of the 891 program suggests that those involved in administering graduate programs in teacher education might profitably take into account certain principles of learning which have received at least theoretical acceptance:

1. Learning is an individual accomplishment. Therefore, opportunities for teachers-in-preparation to learn should be individualized as much as possible.

2. The personality of the individual is a key to learning. Therefore, students should have freedom to express themselves about the quality of their preparation for teaching, and to show their individual abilities in a variety of student-teaching and other learning situations. Patterned, traditional programs may not permit adequate freedom for expressing individual personality.

3. Much learning occurs through problem solving. Students should face genuine professional problems, should develop insights to aid them in solving these and similar problems, and should know the materials and human resources of greatest worth in problem solution. Meanwhile, staff members should behave circumspectly as guides and resources rather than as substitute problem solvers.

4. Emotional climate seriously affects learning. Staff members, as chief climate-setters, should exhibit warmth, patience, and willingness to listen. They should be perceived by students as approachable persons who are engaged with them in a common enterprise.

Without question, Integrated Graduate Program 891 has fallen short of several of its noble and lofty aspirations. Nevertheless, it represents a new departure in teacher education which staff and students believe to be worthy of continued study and development. Will it, in at least a modified and improved form, become the teacher education program that produces the best teachers?

The Essence of Accreditation

. . . There are two . . . elements which together are truly the essence of accreditation. To put the matter as simply as possible, all that should concern us as we search for quality is who is doing the teaching and how the learning process is being carried on. I am not being very heretical in saying this, I hope, even before the most professional of accrediters; but it may be that you will think me more so as I try to state what I think these elements should really contain. For if, as is my view, we lose our way all too often, it is because we forget the fundamental attributes of truly fine education.—*Samuel B. Gould, "The Essence of Accreditation," in* THE EDUCATION OF TEACHERS: CERTIFICATION, *Report of the San Diego Conference, June 1960. (To be published January, 1961, by the National Education Association, National Commission on Teacher Education and Professional Standards, Washington, D. C.)*

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